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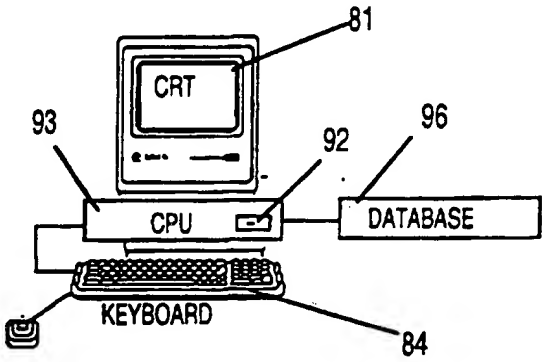

(57) Abstract

A system for matching individuals, products and service providers is trained to react as if an expert was assisting the user, in real-time, to make purchases or design personal development programs or marketing programs. The system allows the user to obtain recommendations from experts based on individual preferences, personal profiles, and desires and goals of individuals. The system creates a database of information about the individuals in order to provide a customized response based on an individual's objectives. The computer system is configured with five primary components: input device (84), processor (93), database (96), expert system (92) and display (81). The computer-driven system creates, accesses, and processes data from databases related to products, services, providers, and the like. Boolean, fuzzy, rule-based, and knowledge-based logic, expert systems, expert interaction and/or expert intervention are used to achieve results.

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A METHOD AND APPARATUS FOR EXPERTLY MATCHING PRODUCTS, SERVICES, AND CONSUMERS

RELATED APPLICATIONS

This application claims priority form U.S. Provisional Application Serial No. 60/022,309, filed July 15, 1996, entitled A METHOD AND APPARATUS FOR EXPERTLY MATCHING PRODUCTS, SERVICES, AND CONSUMERS.

TECHNICAL FIELD

The invention relates to personal assistants and consumer marketing tools. More particularly, the invention relates to systems that assist individuals in making decisions such as purchasing decisions and/or that assist product and service providers in marketing.

BACKGROUND OF THE INVENTION

Consumers as well as marketers have less and less time to make purchasing and marketing decisions. Both consumers and marketers desire personalized, customized and expert-driven information to assist in their decision making.

What is needed is a system to assist in matching products/services with individuals or groups of individuals.

What is needed is a system to visualize the result of such matching.

SUMMARY OF THE INVENTION

The system is a platform or vehicle by which system users or consumers are able to receive both customized/personalized and expert-driven information. Compatible-communicating databases

of individual profiles and vendor product/services are used. Preferably, expert interaction and expert intervention are used to assist in formulating the databases and/or in formulating the data comparisons that are processed. Through use of the system, a system user may obtain, via telecommunication or in print form, personalized recommendations from experts based on individual preferences and personal profiles. In print form, the system provides an expert-created personalized catalog for an individual, such as a consumer. The system is a knowledge based system that replicates the skills of an expert. The system is trained to react as if the expert was actually interacting with the user during the transaction. The result is a process that involves personalized assistance to the user guided by the user's individual preferences, desires, goals and knowledge of their existing tangible possessions.

Generally, the system creates a database of information about individuals, information such as personal profiles of certain characteristics of physical, mental traits and lifestyle. Data models or numerical representations may be used to represent the information about the individuals. Also, the system creates databases related to products, services, providers and the like. This product/service database may be set up by product or service codes such as SKU codes. Preferably, these databases are created with the aid of an expert and/or expert system which codes the product data.

The databases are accessed and the data processed to make comparisons of the data in the two databases and customized product/service and information recommendations are made to the system user about individuals and products/services. Preferably, an expert system is used for the comparison and the recommendations are based on expert fuzzy logic and expert interaction. Weighing

and ranking algorithms may be used to prioritize the best suited matches between individuals and products/services/providers.

Visualization technology is used to enhance the user friendly nature of this system. Realistic images of products and services may be displayed by the system. Images of individuals may be combined with images of products and services to create scenarios or place articles on individuals.

The system is configured with four primary components user input, comparison system, database, and display. Preferably, the comparison system includes an expert system and the database is coded using an expert. The system may be used over the internet or other communication media.

It is an object of the invention to assist in matching products/services with individuals or groups of individuals.

It is an object of the invention to visualize matching results.

DESCRIPTION OF THE DRAWINGS

Figures 1a and 1b are diagrams of hardware configurations for the matching system.

Figure 1c is a diagram showing the system configuration for chart of a preferred embodiment of the matching system.

Figure 2 is a flow diagram of the primary routines for a system for matching individuals and products.

Figures 3a and 3b are flow diagrams of the secondary routines for accessing data associated with an individual and associated with products, respectively, in a system for matching products to an individual.

Figure 4a is a flow diagram of the secondary routines for correlating the data and accepting or rejecting a comparison result.

Figure 4b is a flow diagram of the secondary routines for processing data and accepting or rejecting a comparison result.

Figure 4c is a flow diagram of the secondary routine for evaluating comparison results and accepting or rejecting the comparison result.

Figure 5a is a flow diagram of the secondary routines for disclosing a comparison result by listing the comparison result.

Figure 5b is a flow diagram of the secondary routines for disclosing a comparison result by displaying a digital image of the comparison result.

Figure 5c is a flow diagram of the secondary routines for disclosing a comparison result by morphing the comparison result and a digital physical likeness of the individual, and displaying or printing the morphed image.

Figure 6 is a flow diagram of the additional primary and secondary routines for creating a data profile of an individual.

Figure 7 is a flow diagram of the additional primary and secondary routines for developing a data model of an individual.

Figure 8 is a flow diagram of the additional primary and secondary routines for creating a digital image of an individual.

Figure 9 is a flow diagram of the additional primary and secondary routines for creating a possessions data base.

Figure 10 is a flow diagram of the additional primary and secondary routines for establishing a code for a product.

Figure 11 is a flow diagram of the additional primary and secondary routines for removing a comparison result.

Figure 12 is a flow diagram of the additional primary and secondary routines for grouping of an individual.

Figure 13 is a flow chart of the primary and secondary routines of a preferred embodiment of the system for matching products to an individual.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

The invention relates to a system for matching products and/or services with individuals. More particularly, it relates to methods and apparatus for a computerized system for a user to expertly match products and/or services to an individual or vice versa; either, a product or service is identified and matched to an individual, or an individual is identified and matched to a product or service.

Generally, one or more databases are used to store information on products, services, service providers, product providers, individuals and/or matching criterion. Identifying data is entered on individuals or a product/service/provider, a comparison is made, and matches are located. Matches may be located using several methods, for example, inclusion or acceptance methods or exclusion, rejection, or filtering out methods. Preferably, the methods used in matching involve expert interaction and intervention.

The disclosed methods and apparatus for matching of data can be used in making many types of data matches. The following is a list of exemplary matches:

individual to a single product/service/provider;
individual to a list of products/services/providers;
individual to group of products/services/providers;
list of individuals to a single product/service/provider;
list of individuals to a list of products/services/providers;

list of individuals to group of products/services/providers;

group of individuals to a single product/service/provider;

group of individuals to a list of products/services/providers; and

group of individuals to group of products/services/providers. The converse of these exemplary matches can also be achieved with the disclosed matching system.

The individual, product, service, and provider can be any of a variety of people, places, businesses, and items. The following is a list of exemplary individuals, products, services, and providers: a consumer; a marketing agent; an electrician; a plumber; fashion products (for example, shoes, shirts, suits); electronic devices; dolls; plastic surgery; manicure; locksmith service; tax service; banking service; fashion accessories; furniture; home products; office products; customized diets; hobbies/sports; exercise programs; pets; vacations; weddings; companies; temporary jobs; permanent jobs; suppliers; emergency situations; advice; substitute teachers; schools; small businesses; specialists; homeowners; home furnishings; diet; fitness; health; careers; finance; legal; and hassle solving. This list, while not exhaustive, shows a variety practical uses for the system.

Figures 1a, 1b, and 1c provide an overview of the hardware and system software. This is followed by descriptions of specific embodiments. First, embodiments related to matching products to a specific individual are described followed by alternative embodiments and routines for the same matching. Second, embodiments involving the matching of multiple individuals to one product are described. Third, embodiments involving groupings, then data entry methods, and finally applications of the system are described.

Figure 1a shows a preferred embodiment of the apparatus for matching input data to previously entered data. Figure 1a is comprised of five elements. These elements are an input device 84, a database 96, a processor 93, an expert system 92, and a display 81. The input device 84 can be any of various input devices, for example, a keyboard, a mouse, a phone, or a touch-screen display. The input device 84 is used for accessing the system and entering data, and it allows a system user to enter data. The user enters input data relating either to an individual or to a product, service, or provider

The database 96 is used to store previously entered data which is capable of being compared to the input data. This previously entered data is either coded product/service/provider data or individual data profiles. The coded data may be entered in an automated process or manually.

The processor 93 is operably connected to the input device 84 and the database 96. It compares the input data to the stored data to create comparison results. The comparison results are selected stored data from the database. To accomplish the comparison of data, the processor accesses data in the database 96. The comparison matches individuals and a coded product/service/provider.

Various comparison apparati may be used to accomplish the comparison of data by the processor 93. An expert system 92 is one possible apparatus for accomplishing the comparison of data. The expert system 92 expertly and automatically compares the input data to the stored data to assist in matching individuals and coded product/service/provider. Preferably, the stored data and input data have data elements and the processor 93 correlates the data element

so that they can be examined for correspondence. Weighing and ranking algorithms may also be used.

There are numerous methods which an expert system could utilize to achieve the comparison. Three examples are: a fuzzy-logic system; a Boolean-logic decision tree; and an on-line expert evaluation. The fuzzy-logic system employs fuzzy-logic that an expert has designed. The fuzzy-logic system has various general rules and non-general or individual rules. The stored data is processed through these rules. The fuzzy logic is then used to weigh the results of this processing, and the output is the comparison result matching the individual and coded product/service/provider.

Each comparison of a data element to a data element may be weighed or ranked. For example, those comparisons of data elements that are deemed more important by an expert are weighed more heavily; those that are less important are given smaller weights. After a series of data elements are compared, the weighted comparisons are processed to arrive at a final weight. These weights can then be used to accept matches and/or rank matches.

The Boolean-logic system examines the correlated data elements of the input data and the stored data. It then ascertains any correspondences between the data elements and puts these correspondences through a Boolean-logic decision tree. The decision tree output is the comparison result matching the individual and coded product/service/provider.

The on-line expert evaluation involves a live expert on-line to assist in the matching process. The live expert determines, manually, the comparison results. Preferably, the decision tree is created by an expert. The expert would base the comparison results

on his/her expert opinion. The output is the comparison result matching the individual and coded product/service/provider. The on-line expert may use visual displays to assist in the expert evaluation.

The display 81 can be any of various displays, for example, a CRT, LCD or a television. The input data is displayed on the display. Preferably, visualization software is connected to the display which would create an image of the comparison result for display on the display. Likewise, the visualization software may comprise a morphing routine which would morph an image of the individual and of a comparison result and display this morphed image on the display. This would allow the displaying of the matched individuals and coded product/service/provider to the user.

Although the above embodiment is for comparing input data to previously entered data, there are many alternative embodiments. One such alternative, shown in Figure 1b, compares previously stored data to previously stored data. Figure 1b shows a hardware configuration for an apparatus for matching data to data. In this configuration, multiple databases are available and the input device 80 comprises a CRT 81, a CPU 83, a keyboard 84, and a mouse 85. The processor 93 is operably connected to the input device 80 through a connection 86. This connection may be any of various types of connection, for example, a direct Internet connection, a modem connection, or a LAN connection. Additional hardware, such as a modem, may be necessary for the connection.

Two databases are used in this embodiment, preferably an individual's database and a products database. The individual's database 96 stores information related to individuals. The products

database 98 stores information related to products/services/providers. Each database may be coded by an expert.

Another alternative hardware configuration would include an additional display 81, keyboard 94, and connection 99. This combination of additional elements would provide a means for expert intervention. In expert intervention, the expert manually performs the function of quality control on the comparison results from the database. The display 81 would show the images of the comparison results, the keyboard 94 would allow the expert to enter his/her input, and the connection 99 would allow the expert intervention means to communicate with the processor 93. For example, the expert may approve or disapprove a match using the display and keyboard or other computer data entry device.

This combination of elements could also provide means for coding the previously entered data. It allows an expert to code data and store it in the products database 98. An expert may manually code the product/service/provider data. The display 91 would display the product/service/provider, the keyboard 94 would allow the expert to manually enter the code, and the connection 99 would allow the coding means to communicate with the processor 93.

A preferred configuration of the matching system is shown in Figure 1C. Preferably a computer, keyboard and memory are used for this configuration. The configuration includes four separate, but, communicating sub-systems, namely a individual system 40, a products system 50, a comparison system 60, and a displaying system 70.

The individual system 40 shown in Figure 1c includes three components, a means for creating a data profile of the individual 41,

a means for creating a data model of the individual 44, and a database for processing and storing the data 47. The means for creating a data profile 41 creates a data profile, based on the characteristics and preferences of the individual, that defines the individual and is used to match the individual. It may comprise, for example, a list of multiple choice questions, answers to the questions, an input/output device, and a means to manipulate data. The list of multiple choice questions elicits the characteristics and preferences of the individual so as to enable the creation of the data profile. Preferably experts or an expert-system is used to generate the list of multiple choice questions. The answers to the questions each correspond to specific data code. Other methods of entering data code may be used such as single data entry screens. The input/output device allows the user to view the questions and to input the answers to the questions. The means to manipulate manipulates the data codes so as to create the data profile. Once created the data profile may be stored.

The means for creating a data model of the individual 44 creates a data model, based on the physical appearance of the individual, that is preferably used to create a digital physical likeness of the individual. It may comprise, for example, the same basic sub-components as the means for creating a data profile of the individual 41. It may include a multiple choice question sub-component that utilizes the Identikit technique to create a physical profile of the individual. The Identikit technique is commonly known to those skilled in the art. Alternatively, a manikin system could be used to create facial features and body likeness. The means to manipulate creates a data model of the user, not a data profile. The data model may be used to create a digital physical likeness of

the individual. The created data model may be stored in computer memory.

The database for processing and storing the data 47 may comprise, for example a means for storing the individual's identity, a means for storing the data profile, and a means for storing the data model. Generally, the database includes both hardware and software. Preferably, the means for storing the data profile associates the data profile with the individual's identity. Likewise, the means for storing the data model associates the data model with the individuals identity. Numerous types of available database hardware and software may be used for the database component.

The products system 50, shown in Figure 1c, includes two components, an input device for entering the product 51 and a product database for processing and storing each product 55. The database 55 may comprise a means for storing each product or service and a means for coding each product or service. Generally, the products database includes both hardware and software. The means for coding codes each product or service with the types of characteristics and preferences for which the product or service is appropriate. Preferably, an expert or an expert system determines the code for each product and a unique identification such as an SKU is used.

The matching system 60, shown in Figure 1c, includes four components, for example, a means for communicating to the databases of the individual and products systems 61, a means for comparing the individual to the product 63, a means for outputting acceptance of the product for the individual 66, and a means for outputting rejection of the product for the individual 68. Generally, the means for communicating, comparing, and outputting include

both hardware and software. The means for communicating allows the matching system to communicate with each database. Preferably, the means for comparing 63 correlates the data profile of the individual to the code of the product so that any correspondence between the characteristics and preferences of the individual and the code of the product is ascertained. Likewise, the means for comparing uses an expert system to achieve the comparison. Preferably, the means for outputting acceptance 66 accepts the product if the correlation shows that the product is appropriate for the individual, and vice-versa. Likewise, the means for outputting rejection 68 rejects the product if the correlation shows that the product is inappropriate for the individual, and vice-versa.

The displaying system 70, shown in Figure 1c, includes four components, a means for creating a digital image of the individual 71, a means for creating a digital image of the accepted products 73, a means for morphing the image of the accepted products onto the image of the individual 76, and a means for displaying the morphed image of the accepted products 78. Various image digitization techniques may be used by the display system 70, such as the JPEG standard. Pictures may also be scanned and used by the display system.

The means for creating a digital image of the individual 71 may use various known methods to create a digital image from inputted data. One such variation would be to convert the data model, generated above using the Identikit or other technique, into a digital physical likeness of the individual. Another such variation would be to convert a picture of the individual, scanned in through various means, into a digital image. The digital physical likeness or image may be compressed so as to allow it to be easily manipulated.

The means for creating a digital image of the accepted product 73 preferably generates the image of a product one time and stores it in compressed format. The compressed image may be recalled by the matching system as needed.

The means for morphing the image of the accepted products onto the image of the individual 76 preferably utilizes digital technology to combine two compressed digital images. Each image has preferably been stored in advance and is recalled and processed by the morphing software. In this way, for example, clothing may be placed on the digital image if an individual. This creates the image of the product on the individual, and allows the individual to do virtual shopping. Overlay techniques for overlaying one image over another may also be used for morphing.

The means for displaying the morphed image of the accepted product 78 can be accomplished using a variety of means, for example, computer display devices, a television, or transmittal over the Internet for display elsewhere.

Products To An Individual Embodiment

In a preferred embodiment of the invention products are matched to an individual. The matching of products and services to individuals is accomplished using four primary or major routines. The four primary routines are (1) identifying individual 20 and product 30, (2) accessing data 25, (3) determining comparison result 26, and (4) disclosing the comparison result 28. Although the invention will be mostly described in terms of its use with products, this is simply for ease of description. Upon reading the specification, it will be obvious to one of ordinary skill in the art that the examples provided for products may also be applied to services, providers and the like. Likewise, it will be obvious to one

of ordinary skill in the art that an "individual" may be a person, companies, offices, homes, pets, etcetera.

The identifying routine would identify either an individual 20 or a product 30, but not both. The identifying an individual 20 primary routine, as shown in Figure 2, identifies an individual. Figure 2 also shows that a user can identify a product. These two scenarios are discussed below with reference to embodiments involving matching multiple individuals to one product. The user enters information about the individual through an input device. The input device could be any of a number of various input devices, for example, a computer terminal connected to a network, a computer with a modem connection, a touchtone phone, or a computer connected to the Internet. All the necessary information about the individual may be entered off-line, on-line, delayed or in real time. The entered information includes at least one data of identification about the individual, for example, the individual's name, social security number, or secret access code.

The accessing data 25 primary routine (as shown in Figure 2) accesses data to assist in making a match. This primary routine of accessing data accesses data associated with the individual and data associated with the products.

In accessing the data associated with the individual, the individual's identity, attained by the primary routine of accessing data, is used to locate and access the data. Preferably, the individual data uniquely describes the individual. Likewise, the data associated with the products, uniquely describes each product, and further, it distinguishes each product from another.

The determining comparison result 26 primary routine (as shown in Figure 2) determines the result of a comparison

performed to attempt to make a match. Although the determining a comparison result primary routine 26 may determine a result from the comparison of entered data to accessed data, it is preferred that the comparison be of accessed data to accessed data. For example, the determining a comparison result routine 26 compares the accessed data associated with the individual to the accessed data associated with the products. Data may be accessed from a variety of storage devices, for example, RAM, ROM, CD ROM, etc. The determining a comparison result primary routine 26 may determine a variety of different types of comparison results. Preferably, the comparison result will be the products whose data compares favorably with the individual data being used in the comparison.

Determining the comparison result can be achieved with a degree of personalization by considering data other than physical characteristics. Any personalized data may be used. For example, personalization could include the consideration of personal preferences, psychological or emotional data. The routines or software are configured to achieve this personalization. Interaction by an expert may be used in combination with the personalization or a personalization routine.

The personalization process can be accomplished with a Boolean logic or fuzzy logic technique, or the process could be achieved by the assistance of an on-line expert. This personalization feature allows the system to become more intimately involved with the user and thereby assisting the system to make better or improved product selections for the individual.

The disclosing the comparison results 28 primary routine (as shown in Figure 2) discloses the comparison results as determined by the determining comparison results primary routine 26. The

comparison results are disclosed to the user using an output device. The comparison results may inform the user of a number of various things, for example, the appropriate products, the inappropriate products, or those products, that are of a certain level of appropriateness or inappropriateness.

Figure 3a and Figure 3b are examples of accessing data 25 primary routine. The example shown in Figure 3a is an example of accessing data for an individual or product. The example shown in Figure 3b is an example of electing individuals or products.

Figure 3a comprises two subroutines, namely, a searching individual 251 and product 250 routine and a retrieving individual 253 and product 252 routine. Preferably, the data associated with the individual is stored in a database on a medium. The medium can be any of a various number of mediums used to store data, for example, any magnetic-storage device, a CD-Rom, or a hard drive. The searching the database for the individual data 251 subroutine searches the database to locate the data associated with the individual. The datum of identification is matched to a field within the database and that field contains the address of the data associated with the individual. The retrieving the individual data 253 subroutine uses the address located in the previous subroutine to retrieve the data associated with the individual from the database. This process makes the data available for later use. Searching and retrieving function can also be accomplished for products as shown in Fig. 3a.

Figure 3b includes three subroutines, namely, an electing individual 254 and product 255 routine, a searching 256 routine and a retrieving individual 258 and product 259 routine. Preferably, the data associated with the products is stored in a database on a

medium. Each product may also have an individual SKU for ease of searching and locating. An SKU is a Store Keeping Unit - which stores use to identify individual end user consumer products. The electing the products 255 subroutine elects which products will be accessed, and hence, will be compared to the individual. The searching the database 256 subroutine searches the database to locate the data associated with the products that were elected. The elected products are matched to fields within the database and that field contains the address of the data associated with the products. The retrieving the product data 259 subroutine uses the address ascertained in the previous subroutine to retrieve the data associated with the products from the database. This process makes the data available for later use. Similarly, data can also be retrieved for an individual 258.

There are many alternative methods for effectuating the determining comparison results 26 primary routine. Fig. 4 shows three examples of the determining comparison results 26 primary routine. These examples can be accomplished with a Boolean logic method, fuzzy logic method, with the assistance of an on-line expert or other expert system. Determining a comparison result, irrespective of the type of method used, will end with accepting or rejecting, products or individuals, as shown in Fig. 4. Determining a comparison result involves two steps: (1) performing a comparison and, (2) determining the comparison results. The first step, performing a comparison, can be achieved with either Boolean logic, fuzzy logic or with the assistance of an on-line expert. The second step, determining the comparison result, is accomplished with the accepting and rejecting subroutines shown in Fig. 4. The output of determining a comparison result will either identify a

product or individual, depending on which process is being used. For example, if the user starts with identifying an individual, the output result would match the individual with a product. If the user starts with identifying a product, the output would match the product to an individual or a group of individuals. For example, the system can generate a mailing list of individuals interested in a particular product. Therefore, the accepting/rejecting subroutine output depends on which mode the system is operating.

The following is a discussion on the use of Boolean logic, fuzzy logic and using the assistance of an on-line expert with the embodiment of identifying an individual and matching with one or more products. The process would be essentially the same when identifying a product and matching the product with an individual or group of individuals.

The Boolean logic method is illustrated in Fig. 4 by correlating the data 260 and ascertaining correspondence 269 subroutines. Data associated with the products preferably includes a code, preferably determined by an expert, that defines the appropriate and inappropriate characteristics and preferences for the product. For example, the code could define blond hair and brunette hair as appropriate characteristics, and red hair and black hair as inappropriate characteristics for a product. An example of the code is shown in Table D.

The product code can be created through various means. For example, the expert can directly enter the code for the products, by evaluating each product and defining the appropriate and inappropriate characteristics and preferences of the product based on the experts knowledge and experience. Likewise, the expert can provide software that would evaluate each product and define the

appropriate and inappropriate characteristics and preferences of the product based on the expert's knowledge and experience.

The determining comparison results routine example shown in Figure 4 includes four subroutines, namely, a correlating 260 routine, an ascertaining 269 routine, an accepting products 264 or individuals 265 routine, and a rejecting products 267 or individuals 268 routine. The first two subroutines perform the comparison, and the latter two subroutines determine the comparison results. The correlating 260 subroutine correlates the data profile of the individual and the code of the products. This step allows the data profile and the code to be easily analyzed.

The ascertaining 269 subroutine ascertains, from the correlated data profile and code, any correspondence between the characteristics and preferences of the individual and the appropriate and inappropriate characteristics and preferences of the product. The ascertaining may be accomplished with Boolean logic; for example, if the appropriate or inappropriate characteristic or preference in the product code corresponds to a characteristic or preference in the individual data profile, then the correspondence is ascertained, and the same logic is used for the next characteristic or preference and so on. Corresponding characteristics and preferences are ascertained in this manner.

The accepting products 264 subroutine accepts those products that are appropriate for the individual, generating a comparison result from the ascertaining 269 subroutine. More particularly, this subroutine accepts the products for the individual that have been ascertained to have only appropriate corresponding characteristics and preferences; if there are any inappropriate corresponding characteristics and preferences, the product is not accepted.

The rejecting products 267 subroutine rejects those products inappropriate for the individual, generating a comparison result from the ascertaining 269 routine. More particularly, the rejecting products 267 subroutine rejects the products for the individual that have been ascertained to have any inappropriate corresponding characteristics and preferences; if all the corresponding characteristics and preferences are appropriate, the product is not rejected. It is not necessary to use the accepting products subroutine 264 and rejecting products subroutine 267 simultaneously. One routine may suffice. Also shown in Fig. 4 are the accepting 265 and rejecting 268 subroutines for the individual which perform the accepting and rejecting steps for individuals rather than products.

The fuzzy logic method is illustrated in Fig. 4 by the processing data 262 subroutine. The fuzzy-logic system has Expert Rules, that the expert sets; the expert determines the rules, the questions, and the weightings. The Expert Rules may be coded as part of the software or may be stored in a database. The rules preferably include general rules and non-general or individual rules. The general rules apply for all or most individuals. There are many varieties of these general rules, for example: draw eyes to figure assets, with color or large patterns; draw eyes away from figure flaws, with no color or small patterns; camouflage figure flaws (i.e. if big on top and small hips, put color on bottom); use conventionals (things that work with most styles), such as a Burberry tan raincoat; and avoid certain pattern or color combinations, such as blond hair and yellow clothes, horizontal or vertical stripes.

The non-general or individual rules vary and are determined for each individual by that individual's characteristics and

preferences. There are many varieties of these non-general rules, for example: the individual never wears pants; the individual hates the color white; or the individual prefers a western-style.

There may also be product manufacturer or supplier rules. An example of such a rule is: the purple and orange suede cowboy boot is never worn by average height, bearded, dark-haired men of Italian descent who are lawyers. Therefore, if an individual of such characteristics were being matched to boots, these boots would automatically be rejected.

The fuzzy-logic applies not only to the comparison and product data, but, also to the user input about the individual. For example, there may be "heavyweight" questions on the user's input, the answers of which are weighted heavily so that they may determine a large portion of the selection criteria. Ten of the questions about an individual may be very important or "heavy weight" questions. The particular answer the user gives to a question will help determine the weighting of that question and answer. For example, on the body identifier selection user question, if the user selects a "pear shaped" body for the individual, this answer will have a strong weighting, while if the user selects a "slim, no hips," this answer will have a lesser weighting. Generally, a moderate answer to a question will have a lesser weighting, while an extreme or unusual answer will have a higher weighting, since the extreme or unusual answer will more strongly effect the matching process and selection criteria.

Furthermore, the results of applying the rules to a product's characteristics and attributes are given certain values by the expert such as weights or ranks. The fuzzy-logic, as defined by the expert,

weighs the values of the results and determines whether the product is appropriate or inappropriate for the individual.

Various weighing algorithms may be used. The weighing algorithm is used by the expert to stress the importance of certain rules or preferences over others for an individual. Preferably, the fuzzy-logic would also give a value for the level of appropriateness of the product for the individual. This would allow the comparison results to be ranked so that the user would know what products are best suited for the individual. Preferably, the fuzzy-logic weighing would take into account the other products being matched to the individual and would relate the current product to these in terms of Style and Budget. Therefore, if the individual, with a $6000 budget, had already been matched to a $ 5000 chiffon dress, a $2000 pair of purple and orange suede boots, that otherwise were appropriate for the individual, would be weighed much lower so as to not be appropriate for the individual.

Figure 4 includes a processing 262 routine, an accepting products 264 or individuals 265 routine, and a rejecting products 267 or individuals 268 routine. Similar to the Boolean logic example above, the first subroutine performs the comparison and the latter two subroutines determine the comparison result. The processing data 262 subroutine processes the data profile of an individual and the characteristics and attributes of products through the fuzzy-logic system. This subroutine determines all the individual rules from the user's data profile, and then applies the general and special rules to each product's characteristics and attributes. Special rules may be associated with a particular product. The end result is that the product is determined appropriate or inappropriate, and preferably given a value for its level of appropriateness. The value for a

product's level of appropriateness may be, for example, derived from the weights used by the fuzzy logic system.

The accepting products 264 subroutine (described above) accepts a product for the individual if the results of the fuzzy-logic system determined that the product is appropriate for the individual. There are some differences when the accepting products 264 subroutine is used with the fuzzy-logic system; preferably, this subroutine ranks the accepted products by their level of appropriateness, as determined by the weighted value the products were given. This allows the user, when the comparison results are disclosed, to see which product is the most appropriate for the individual.

Likewise, the rejecting products routine 267 (described above) rejects a product for the individual if the results of the fuzzy-logic system determined that the product is inappropriate for the individual. There are some differences when the rejecting products 267 routine is used with the fuzzy-logic system; for example, the rejecting products 267 subroutine could filter the appropriate products, rejecting those appropriate products that are below a certain level of appropriateness, as determined by the weighted value the products were given. This level could be determined by user input, where the user is seeking a certain high level of selectiveness. Similarly, this level could be determined by the expert as a quality-control check to prevent the system from disclosing comparison results that are only marginally appropriate.

The method involving the assistance of an on-line expert is illustrated in Fig. 4 by the evaluating subroutine. The on-line expert comparison allows the user to have direct expert interaction. The expert would, preferably in real-time and on-line, perform the

comparisons of the individual to the products that the user was seeking. This would give the system a more personal touch. This could be made available to all users, selected users, or as special offerings. This alternative embodiment allows the user to feel like the user is personally shopping with the expert. Preferably, the experts comparison is made with the assistance of images and data on the products and individuals. The expert may be remotely located such as on an internet connection.

Figure 4 includes an evaluating products 263 or individuals 266 routine, an accepting products 264 or individuals 265 routine, and a rejecting products 267 or individuals 268 routine. As above, the first subroutine performs the comparison and the latter two subroutines determine the comparison result. The evaluating the acceptability of the products 263 subroutine evaluates the acceptability of the products based on the experts evaluation of the data profile of the individual and the characteristics and attributes of the products. Basically, the expert looks at each product's characteristics and attributes and the data profile of the user, and determines if the product fits the user.

The accepting products 264 subroutine (similar to the accepting products routines described above) accepts the products for the individual if the expert has determined the product fits the individual. Preferably, this subroutine could also rank the accepted products by their level of appropriateness as determined by the expert.

The rejecting products 267 subroutine (similar to the rejecting products routines described above) rejects products for the individual if the expert has determined the product does not fit the individual.

Although the examples shown in Fig. 4 are shown with their subroutines in combination, various permutations and combinations of the described subroutines may be used. For example, in Figure 4 the correlating 260 subroutine and ascertaining 269 subroutine may be used with either the accepting subroutine 264, 265 or the rejecting subroutine 267, 268. Various weighing and ranking systems may be used in combination with the examples. Likewise, the processing 262 subroutine may be used with either the accepting subroutine 264, 265 or the rejecting subroutine 267, 268. Also, various features of the three systems could be combined to develop hybrid systems. For example, a combination of the Boolean-logic system and the fuzzy-logic systems could be created. For example, the products could be coded, as in the Boolean system, and the fuzzy-logic could be applied to the products using this code. Likewise, the coding could be used with the on-line expert comparison, so as to reduce the on-line time that the expert would need to compare. One skilled in the art would understand from these examples that any of these permutations and combinations, and others, can be used to effectuate the determining comparison results 26 primary routine.

Various visualization techniques may be used to effectuate the disclosing comparison results 28 primary routine. The visualization techniques can be utilized to help the user select a desired product. Generally, the preferred visualization techniques can be used for individuals or products and can be categorized as follows: listing; displaying images; displaying images of products morphed onto the individual; and providing a hard copy.

There are many alternative methods, for example, as shown in Figures 5a, 5b, and 5c. Figure 5a is a listing example. Figure 5b is

a displaying images example. Figure 5c is a morphing example which includes the option of transmitting over the internet or printing the image.

Figure 5a comprises two subroutines, namely, a listing routine 281 and a displaying routine 282. The listing the comparison results subroutine 281 lists the comparison results, which are products in this embodiment, in an organized manner. The displaying the list subroutine 282 displays the list of the products so that the user can view it. This alternative method accomplishes the visualization technique of listing.

Figure 5b comprises three subroutines, namely, a creating routine 283, a displaying routine 284, and a transmitting routine 285. The creating a digital image of the comparison result 283 subroutine creates a digital image of the products. The displaying the image of the comparison results 284 subroutine displays the digital image of the products that was created in the previous subroutine. The transmitting the image over the Internet 285 subroutine transmits the image of the products over the Internet so that the user can remotely view the images of the identified products.

Although Figure 5b shows the three subroutines used in combination, various permutations of the three subroutines may be used. For example, the creating subroutine may be used in conjunction with the transmitting subroutine alone. Alternatively, the creating subroutine may be used in conjunction with the displaying subroutine alone. Either of these permutations, and others, may be used to accomplish the visualization technique of displaying.

Figure 5c comprises seven subroutines, namely, a creating 283 routine, a displaying 284 routine, a creating identified input 286

routine, an adjusting 290 routine, a morphing 287 routine, another displaying 288 routine, and a transmitting 289 or printing 295 routine. In this example, the data associated with the individual includes a data model of the individual that can be used to create a digital physical likeness of the individual or, for example, the image of the individual can be scanned from a photograph. The creating a digital image of the comparison result 283 subroutine and the displaying the image of the comparison result 284 subroutine are similar to those disclosed above. The creating digital image of identified input 286 subroutine creates a digital image of the identified input. The adjusting image of comparison result and/or identified input 290 subroutine adjusts the digital image of the individual or product so that they are on the same scale.

The morphing the image of the comparison result 287 subroutine morphs the image of the products onto the digital physical likeness, or scanned image, of the individual so as to create a morphed image of the products on the physical likeness of the individual. The displaying of the morphed image 288 displays the morphed image created in the previous subroutine so that the user will be able to view the image of the product on the physical likeness of the individual. Either the digital physical likeness or the morphed image can be displayed on a background. The background could be a physical location such as Paris or London (or any other location). This allows for the user to see themselves in their new outfit at a specific location. The background can be overlayed or integrated into the digital pixel image of the display 81. The transmitting the morphed image over the Internet 289 transmits the morphed images over the Internet so that the individual will be

able to remotely view the morphed images. The morphed image can also be printed onto a printed medium 295.

Although Figure 5c shows the seven subroutines used in combination, various permutations of the seven subroutines in each may be used. For example, the transmitting subroutine 285 could be skipped, as could either of the displaying subroutines. Either of these permutations, and others, may be used to accomplish the visualization technique of displaying the morphed image.

The printing the morphed image onto a printed medium 295 subroutine prints the morphed image onto a printed medium so that the user can obtain a hard copy of images of the products on the individual's digital image. This allows the user to spend whatever time the user wants perusing the printed medium picking out new products, without a concern for on-line time and with benefit of a more hands-on experience. The printing routine can be used to create a personalized catalog for an individual.

Although the examples above discuss disclosing comparison result routines using displays, transmittal on the Internet, and printed hard-copies, there are many more variations to the disclosing routine. For example, the comparison results could be disclosed through on-line services, Interactive television, alphanumeric or numeric pager/phone voicemail, TV data delivery with SCA or VBI, direct mail, and Mass Media including, television, magazines, or CDRom. Additionally, the comparison results could be disclosed directly to the product suppliers with the individual data, so that the suppliers could directly contact the individual through various means. For example, the suppliers could contact the individuals with e-mail, postings, telephone, mail, etc.

Referring generally to Figures 6 through 13, alternative embodiments or routines for the matching system for matching products to an individual are shown. Fig. 6 is an example of creating a data profile. Fig. 7 is an example of developing a data model. Fig. 8 is an example of creating a digital image. Fig. 9 is an example of creating a possessions database. Fig. 10 is an example of creating a code for a product. Fig. 11 is an example of creating a morphed image and Fig. 12 is an example of intervening by an expert. Fig. 13 is a preferred embodiment of the system for matching products to an individual.

Creating a profile of an individual can be accomplished by the method shown in Figure 6; this step would follow the identifying an individual 20 primary routine shown in Fig. 2. In the creating a data profile of the individual, data is entered about the individual and a data profile of the individual is created from this data. This individual data describes the individual and the data profile organizes the data in such a way as to allow the data to be stored, accessed and used easily.

There are many alternative methods for creating a data profile, one example, is shown by Figure 6. Figure 6 includes three subroutines, namely a posing routine 211, a processing routine 212, and a storing routine 213. The posing multiple choice questions 211 subroutine poses multiple choice questions to the user, eliciting answers that will describe the individual. These questions can be directed towards the individual's characteristics and preferences; these questions may cover both wide categories that collectively cover many things including personality traits, physical traits, region where the individual lives, marital status, lifestyle, budget and career.

Preferably, a series of questions would ask the user to choose the best physical attributes of the individual and the Challenges (worst attributes) of the individual. Likewise, a question would ask the user to choose a body shape identifier from multiple choices. Further examples of these questions and their answers are seen in Tables A, B, and C. Preferably, an expert or expert system is used to create the multiple choice questions and answers. The expert or expert system would determine what questions to ask and what the possible answer choices should be. The user enters answers via an input device. The user enters the multiple choice answer that describes the individual's characteristics or preferences. The processing the user's answers 212 subroutine processes the user's answers so as to create the data profile about the individual. The storing the data profile 213 subroutine stores the data profile created in the processing answers subroutine so that it may be easily accessed later. The result of this method of effectuating the creating data profile primary routine is that a data profile of the user is created and stored so that products can be effectively matched to the individual.

Developing a data model of the individual can be accomplished by the method shown in Figure 7; this step would follow the identifying an individual 20 primary routine in Fig. 2. In the developing a data model of the individual primary routine, data is entered about the individual and a data model of the individual is created from the data. This data describes the physical appearance of the individual and the data model organizes this data in such a way as to allow the data to be stored, accessed, and used easily.

There are many alternative methods for developing a data model, for example, as shown by Figure 7. Figure 7 includes five

subroutines, namely a creating a physical profile routine 221, a processing routine 222, a storing routine 223, a creating a digital physical likeness routine 224, and a displaying routine 225. The creating a physical profile of the individual subroutine 221 allows the user to enter data about the individual's physical appearance, utilizing the Identikit technique. The responses from the user to the questions posed by the Identikit technique create a physical profile of the individual. The user enters the responses using an input device. The processing the physical profile of the individual subroutine 222 processes the physical profile from the previous subroutine so as to create a data model of the individual. This data model can be utilized to create a digital physical likeness of the individual. The storing the data model in memory subroutine 223 stores the data model created by the previous subroutine in memory so that it may be easily accessed later. The result of this method of effectuating this primary routine is that a data model of the individual is created and stored so that products can be effectively displayed on the individual. The creating a digital physical likeness subroutine 224 creates a digital physical likeness from the data model of the individual. The displaying the digital physical likeness subroutine 225 displays the digital physical likeness created by the previous subroutine so that the user can see how the individual would look with the currently entered physical profile. If the user does not like how the individual looks, the user can enter a different physical profile and match the individual to products for this profile.

Although Figure 7 shows the five subroutines in combination, various permutations can be used. For example, the creating a physical profile subroutine 221, processing routine 222,

and storing routine 223 may be used in combination to the exclusion of the other subroutines. This permutation, and others, may be used for developing a data model.

Creating a digital image of an individual can be accomplished by the method shown in Figure 8; this step would follow the identifying an individual 20 primary routine shown in Fig. 2. In creating a digital image of the individual, a picture is entered so that the user can see exactly how the individual will look with the products. The user will see more than just a physical likeness; the user will see the individual's image, in digital form.

There are many alternative methods for creating a digital image of the individual, one example is shown in Figure 8. Figure 8 has two subroutines, namely, a receiving routine 241 and a creating routine 244. The receiving a picture of the individual 241 subroutine inputs a picture of the individual so that the picture may be utilized to create a digital image of the individual. The creating a digital image of the individual subroutine 244 utilizes the picture inputted in the previous subroutine to create a digital image of the individual. Various known digitizing methods may be used to create the digital image. Using a similar process, digital images of an individual's tangible possessions or wardrobe may also be created.

The preferred system also has the capability of entering the possessions of an individual into a database as shown in Fig. 9; this step would follow identifying an individual primary routine 20 shown in Fig. 2. Possessions are tangible items or any type of material objects that are owned by the individual. The process of entering the possessions data would be the same or similar to the process of entering data for products. The possessions may be entered into the system by a keyboard, scanner, bar code scanner or

other input device. A database is created storing the possession data. The possessions can also be appraised. The appraisal process includes the evaluation of the possessions database to identify items that may need to be purchased to complete or enhance the set of possessions. For example, the possessions database could be comprised of an individual's clothes, stock portfolio or cars.

The step of determining a comparison result may include consideration of the items in the possessions database. In the preferred embodiment, an individual's entire wardrobe is entered into the system. The wardrobe is then appraised by software or human intervention. Preferably, an expert or rule based software program evaluates the wardrobe and reaches some conclusions. This appraisal information is then displayed or passed on to the user. Alternatively, the appraisal information can be used by the comparison results primary routine 28 to assist with determining a comparison result. In a virtual sense, the possessions database will allow the user to "bring along" their wardrobe to a computer generated location. For example, the user could go shopping at a virtual mall with the expert to see how new garments or outfits go with presently owned garments or outfits by using the visualization techniques earlier described.

Figure 11 is an example of a method of expert intervention. There are many alternative methods for having an expert intervene in the matching system. An expert may intervene in the comparison step through, for example, an expert system or in an approval process. The purposes of having expert intervention include quality-control and user reassurance. In many instances, the user simply needs to be reassured that the match is a "good" or acceptable match.

The intervening by expert routine, shown in Figure 11, allows an expert to intervene to approve or disapprove a match. This routine can be made available in numerous ways; for example, it could be an automatic feature of the matching process, it could be a feature prompted by the user, or it could be a special feature available only to certain users. In this routine, an expert would, in real-time, approve or disapprove of the comparison results. Therefore, the expert would evaluate the products that have been accepted for the individual by the comparison step or process. This expert routine is a final quality control step in the matching process. If the expert determines that the products do not fit the individual well enough, the expert preferably would remove the products from the comparison results.

There are many alternative methods for implementing the intervening by an expert primary routine. Figure 11 is one method. Figure 11 comprises three subroutines, namely, a creating a morphed image 321 subroutine, a displaying the morphed image 323 subroutine, and a removing a comparison result 325 subroutine.

The creating a morphed image 321 subroutine creates a morphed image of the comparison result, which, in this embodiment, is an accepted product shown on the individual. This subroutine preferably creates a digital image of the accepted product on the individual. The displaying the morphed image 323 subroutine displays the morphed image of the accepted product on the individual to the expert, so that the expert can see how the product looks on the individual. Based on this image, the expert may evaluate visually whether the product fits the individual. The removing the comparison result 325 subroutine allows the expert to remove the accepted product from the comparison results if the

experts evaluation determines that the product does not fit the individual. Various other bits of data or information may also be made available to the expert in order to assist the expert in the approval process.

There are many ways in which to combine the various alternative routines described above to configure a matching system. For example, Figure 13 comprises an embodiment of the matching system with seven primary routines, namely, identifying an individual 20, creating a data profile of the individual 21, developing a data model of the individual 22, accessing data 25, determining comparison results 26, intervening by an expert 32, and disclosing the comparison result routine 28.

In this embodiment, the user would first identify an individual. Second, the user would answer questions creating a data profile of the identified individual. Third, the user would answer questions creating a data model of the identified individual. Fourth, this data about the identified individual would be accessed from where it was stored in memory. Also, data about products the user wished to be considered for matching may also be accessed during this step. Fifth, comparison results would be determined through a Boolean-logic comparison (or other method of comparison) of the data profile of the individual and the code of the products. These comparison results would preferably be products that had been accepted as appropriate for the individual. Sixth, an expert would intervene to evaluate the comparison results. The expert would remove any accepted products from the results that the expert determined, in the expert's opinion, did not fit the individual. Lastly, the comparison results would be disclosed to the user. This disclosure would preferably transmit morphed images of

the comparison results on the digital physical likeness of the individual to the user. These comparison results would be the accepted products that the expert had determined were approved to fit the individual.

This combination is just one of many ways to combine the various alternative routines disclosed above. One skilled in the art, upon reading the above examples, would understand that numerous other combinations can be had with the removal of routines, the changing of routines, or the addition of routines.

Individuals to Product Embodiment

In another preferred embodiment of the invention, the focus is on matching a product to many individuals, instead of matching an individual to multiple products. This embodiment could be used for example by a boot company to find individuals that are likely to purchase a particular boot, for example, a western boot in sizes 8 through 11.

This one product to many individuals embodiment uses basically the same four primary routines, referring to Figure 2, as the embodiment described above for matching products to an individual: (1) identifying, (2) accessing data, (3) determining comparison results, and (4) disclosing comparison results. Likewise, the subroutines are very similar to the subroutines of the above embodiment. With the differences as noted below, a person of ordinary skill in the art will understand the applicability of the earlier described embodiments to this application of the technology. Some differences between the embodiments are described below.

Figure 2 shows a preferred embodiment of the four primary routines. The identifying a product 30 primary routine is the only

primary routine that is notably different from the early described embodiment. The user enters information about the product rather than an individual through an input device, as information was entered about the individual. The information includes at least one datum of identification about the product, for example, the product's name or an SKU number or other identification number.

Figures 3a and 3b are examples of the accessing data 25 primary routine. The example shown in Figure 3a is an example of accessing data for the product or the individual.

Figure 3a comprises two subroutines, namely, a searching the database for the product data 250 subroutine and a retrieving the product data 252 subroutine. This process can also be done for individuals 251, 253. Likewise, the address or location of the product data is found or located using the datum of identification of the product provided in the identifying the product 30 primary routine.

Figure 3b comprises three subroutines, namely an electing the individuals 254 subroutine, a searching the database 256 subroutine, and a retrieving the individual data 258 subroutine. The same process can be done for products 255, 259.

There are many alternative methods for establishing a code for a product, Fig. 10 shows one such alternative embodiment; this step would follow identifying a product 30 primary routine shown in Fig. 2. The establishing a code for the product primary routine allows the coding of the products. One purpose of this coding is to provide a means to match the products to the individual. Preferably, an expert or an expert system creates this code for each product. The expert uses the code to describe and define the product; the code classifies each product as appropriate for certain

characteristics and preferences. For example, the code could define blond hair and brunette hair as appropriate characteristics, and red hair and black hair as inappropriate characteristics. The code may define a product as appropriate for a certain life style.

The expert can create the code using various means. For example, the expert can directly enter the code for the products, by evaluating each product and defining the appropriate and inappropriate characteristics and preferences of the product based on the expert's knowledge and experience. Likewise, the expert could provide software that would evaluate each product and define the appropriate and inappropriate characteristics and preferences of the product based on the expert's knowledge and experience. The software may employ, for example, decision tree type logic and/or fuzzy logic. Once the coding is done, the code is stored and associated with the products so that it may be accessed and used. The code may be stored in various formats, preferably in a database.

There are many alternative methods for establishing a code for a product, an example is shown by Figure 10. Figure 10 comprises two sub routines, namely, a storing routine 231 and a placing routine 234. The storing the products 231 subroutine stores products in memory so that they may easily be accessed later. The placing the code with the products 234 subroutine places the code with the products in memory and is the routine which actually encodes the products. Using this method with an additional primary routine is that the products are coded in memory and the codes may be accessed later so as to match the products to the individual.

Grouping Embodiment

Referring to Figure 12, a preferred embodiment with individual grouping is shown. Individuals are placed into or assigned to groups for matching. Group assignments are determined by the answers to questions which allow the user to be put into a category. This embodiment could be used with either of the above two embodiments; i.e., the individual grouping could be used in the embodiment for matching products to an individual or in the embodiment for matching individuals to a product. This embodiment is very similar to the previous embodiments except for one notable difference; instead of the individual having a data profile with the individual's characteristics and preferences, the individual will be placed into a group, and the individual's group will be the data associated with the individual. The individual will still have a body shape identifier. Therefore, products will not be compared to the individual based on the individual's characteristics and preferences; the products will be compared to the individual based on the individual's assigned group. For example, if the product is appropriate for the individual's group, then it will be accepted for the individual. One advantage of using a grouping system is that the product recommendations could be recommended for a whole group through some mass media, such as magazines, television or newspapers. This would allow for the efficient delivery of personalized recommendation.

Figure 12 is an example of grouping the individual. The grouping the individual primary routine groups the individual into a predetermined group based on the individual's characteristics and preferences. There are many alternative methods for grouping the individual, one example is shown in Figure 12.

Figure 12 has three subroutines, namely, a posing routine 313, a processing routine 314, and a storing routine 317. The posing multiple -choice questions 313 subroutine poses various multiple-choice questions that the user answers. The answers to the questions define the individual's characteristics and preferences. The processing the user's answers 314 subroutine processes the user's answers so as to fit the individual within one previously defined category or grouping. The storing the category 317 subroutine stores the individual's category or grouping in memory so that it may be accessed later.

Data Profile Multiple-Choice Questions

There are many possible variations of the multiple-choice questions disclosed above for determining the individual's characteristics and preferences. For example, Tables A, B and C depict one such possible variation, a screen entry variation. Table A is a screen input which comprises two sections, namely, a physical section and a lifestyle section. The physical section focuses primarily on physical traits of an individual. The physical section may inquire about, for example, such physical traits as age, height, hair color, hair texture, body tone, body shape, etc. For each individual, the lifestyle sections may inquire about, for example, where the individual lives, background, schools, marital status, the work habits, how the individual rates certain leisure activities, or how the individual chooses fashions.

TABLE A

PHYSICAL	LIFESTYLE
Age	Where Do You Live?
Height	Background?
Hair Color	Schools?
Hair Texture	Marital Status?
Body Tone	Work Habits?
Body Shape	Leisure Activities?
	How Do You Choose Fashions?

Table B is a screen input which comprises two sections, namely, a preferences section and a psychological/emotional section. The preference section may inquire about what person (for example, celebrity) the individual would like to look like, whether the individual likes being in style, or whether the individual wants to keep the same basic style. The psychological/emotional section may inquire whether the individual likes women, men or both, what men and women the individual wants to look like or admire, whether the individual wants to blend in, whether the individual is dependent, independent or neither, whether the individual would like to be dependent, independent or neither, how the individual's style would be described, how the individual would like the individual's style to be described, or how the individual's personality would be described.

TABLE B

PREFERENCES	PSYCHOLOGICAL/EMOTIONAL
Who Would You Like To Look Like?	Do You Like Women?
Do You Like Being In Style?	Do You Like Men?
Do You Want To Keep Your Basic Style?	Do You Like Women And Men?
	What Look Do You Admire?
	Are You Dependent?
	Are You Independent?
	How Would You Describe Your Style?
	How Would You Describe Your Personality?

Table C is a screen input which comprises one section, namely, a financial section. The financial section may inquire what the individual's annual income is or what the individual's fashion and beauty budget is, or budget for a type of product. The user's answers define the individual's characteristics and preferences. Further, each of these answers corresponds to a data code. Therefore, when the user answers these questions, these data codes will be processed to determine the individual's data profile. Although, multiple choice prompts of the user are preferred, other

methods of entering this type of data may be used such as data entry forms, voice, touch screens, interview, etc.

TABLE C

FINANCIAL
What Is Your Annual Income?
What Is Your Fashion And Beauty Budget?

Determining the Code of the Products

There are various methods with which an expert can code the products. For example, Table D discloses one possible method for the expert to determine the code of the products. Table D shows that various expert input that would determine the code of the product. Preferably, the expert that would enter this input would be an expert in the product's field, and the expert would base the input on the product's characteristics. The expert would ask highly specific questions of the product manufacturer or provider so as to be able to establish close matches. These characteristics could be, for example, size, color, material, trim, length, and price. As seen in Table D, the expert could input, for example: for what region or type of weather the product is appropriate; for what body shape the product is appropriate; for what height the product is appropriate; for what uses the product is appropriate; for what lifestyles the product is appropriate; for what personalities the product is appropriate; and, for what wardrobes the product is appropriate. The expert could, for all the input, code the product with different levels of appropriateness for different things; for example, the product could be given a high appropriateness rating for certain regions, a medium appropriateness rating for other regions, and a

low appropriateness rating for other regions. The expert input would be stored with the products and be used to match the product to appropriate individuals. Preferably, the products are coded by an expert using a weights and ranking system so that intelligent and fuzzy logic comparison systems can be effectively used in making matches.

TABLE D

DETERMINING THE CODE OF A PRODUCT
Size? Color? Material? Trim? Length? Price?
What Type Of Weather?
What Body Shape?
What Height?
What Use Is Appropriate?
What Lifestyle?
What Use?
What Personalities?
What Type Of Wardrobe?

Applications Of The System

There are many various applications of the matching system technology, some of which are touched on above. Many of these applications can be placed in categories, for example: matching products/services to an individual; matching products/services to and individual with heavy expert involvement; matching possible experiences to an individual, so the individual can see what happens if he/she experiences the experience; matching

individuals to products/services; Yellow Page matching; and Mentor matching.

The matching products/services to an individual (many to one) may use the preferred embodiment for matching products to an individual described above. There are many various examples of matching products/services to an individual. For example, these applications could be matching: fashion and fashion products to a person; beauty products to a person; makeovers to a person; beauty services to a person; home furnishings to a house; and landscaping products to a yard.

The matching products/services to an individual with heavy expert involvement may likewise use the preferred embodiment described above for matching products to an individual described above. There are many various examples of this category of applications. For example, these applications could be: matching: a diet to the individual; an exercise program to the individual; hobbies or sport activities to the individual; and pets to the individual. These examples might require heavy expert involvement because the products are less definable than in the previous applications or the matching might require direct interaction between the user and the expert.

The matching of possible experiences to an individual, so the individual can see what happens if he/she experiences the experience may likewise use the preferred embodiment described above for matching products to an individual. There are many various examples of this category of applications. For example, these applications could be matching: travel and vacations to the individual; dates to the individual; a career to the individual; and a wedding to the individual. These applications would allow the user

to visualize how the experience would look for the individual on a display. For example, the individual may be depicted on a beach at a vacation resort with other beautiful people. Likewise, the visualization could allow the user to see how a "day in the life of ", for example, a lawyer, would appear. It would show a series of scenes, such as the individual dictating memos, meeting with clients, drafting patent applications, etcetera. This would assist the user to choose, for example, a vacation or career for the individual.

Many visualization systems and virtual reality-type systems can be employed to provide the user with the "experience." One skilled in the art can see that there are many other possible examples of this category of applications.

The matching of individuals to a product/service may be accomplished with the preferred embodiment described above for matching individuals to a product. This category of applications could be used to provide the opposite applications of the matching described above. The purpose for this would be to allow the product manufacturer, service provider, experience provider to find individuals that would most likely buy the product, service, vacation or experience. For example, a fashion product manufacturer, such as a boot manufacturer, could target market those individuals that match with his boots and would most likely buy them. Likewise, a vacation provider could match his vacation to individuals that would most likely enjoy them, and target market those individuals. One skilled in the art can see that there are many other possible examples within this category of matching applications.

The Yellow page matching application may use either of the preferred embodiments, the matching products to an individual or

individuals to a product, described above. The purpose of this category of applications is to find a match for a specific need. For example, the product could be a temporary job at a company, and the company would want a match to the most qualified and available individuals. Similarly, the product could be a specific service provider, such as gutter-cleaners, and the individual could be seeking a match to the most qualified gutter-cleaner. For this category of applications, the expert might ask questions of the user focusing solely on the need. One skilled in the art can see that there are many other possible examples within each of these categories of applications for the matching system.

The Mentor matching can be used with both the matching individuals to a product and the matching products to an individual preferred embodiment. The user would select a "mentor" in a website; the mentors would preferably be computer driven personalities and be the liaison between the user and the technology, the user and the product/service vendors, the user and experts providing recommendations, the user and the rest of the web site, and the user and the rest of the web. The user could "ask" the mentor for assistance in the from of specific questions rather than just keywords, and receive it, on-line or through e-mail. The mentor would run the matching systems to provide the necessary assistance for the user, and then would be the primary interface with related web activities and sites.

The terms and descriptions used herein are set forth by way of illustration only and are not meant as limitations. Those skilled in the art will recognize that numerous variations are possible within the spirit and scope of the invention as defined in the following claims.

What is claimed is:

1. A method for matching products, services, or providers to individuals wherein the method utilizes one or more input devices and one or more output devices comprising the steps of:

identifying, with a user's input from an input device, one or more individuals or one or more products, wherein the user's input includes at least one datum of identification for identifying individuals or products;

accessing data associated with one or more individuals, wherein the data associated with each individual uniquely describes that individual;

accessing data associated with one or more products, wherein the data associated with each product uniquely describes that product;

determining a comparison result, wherein the comparison result is determined by the comparison of the accessed data associated with one or more individuals and the accessed data associated with one or more products; and

disclosing the comparison results to the user on an output device.

2. A method for matching products, services, or providers to individuals wherein the method utilizes one or more input devices and one or more output devices comprising the steps of:

identifying, with a user's input from an input device, an individual, wherein the user's input includes at least one datum of identification for identifying the individual;

accessing data associated with the individual, wherein the data associated with the individual uniquely describes the individual;

accessing data associated with one or more products, wherein the data associated with each product uniquely describes the product;

determining a comparison result, wherein the comparison result is one or more products determined by the comparison of the accessed data associated with the individual and the accessed data associated with one or more products; and

disclosing the comparison results to the user on an output device.

3. A method for matching products, services, or providers to individuals wherein the method utilizes one or more input devices and one or more output devices comprising the steps of:

identifying, with a user's input from an input device, a product, wherein the user's input includes at least one datum of identification for identifying the product;

accessing data associated with the product, wherein the data associated with the product uniquely describes the product;

accessing data associated with one or more individuals, wherein the data associated with each individual uniquely describes the individual;

determining a comparison result, wherein the comparison result is one or more individuals determined by the comparison of the accessed data associated with the product and the accessed data associated with one or more individuals; and

disclosing the comparison results to the user on an output device.

4. The method of claim 1 or 2 wherein the data associated with one or more individuals is in a database stored on a medium and the step of accessing the data associated with one or more individuals comprises the steps of:

searching the database to locate the data associated with an individual, wherein the datum of identification of the individual matches to a field within the database and that field also contains an address of the data associated with the individual; and

retrieving the data associated with the individual, with the address of the data, wherein the data being available for later use.

5. The method of claim 4 wherein the data associated with one or more products is in a database stored on a medium and the step of accessing the data associated with one or more products comprises the step of:

electing one or more products, with a user's input from an input device, wherein the user's input includes at least one datum of identification of the products;

searching the database to locate the data associated with the products, wherein the datum of identification of the products matches a field within the database and that field also contains an address of the data associated with the products; and

retrieving the data associated with the products, with the address of the data, wherein the data being available for later use.

6. The method of claim 1 or 3 wherein the data associated with one or more products is in a database stored on a medium and the step of accessing the data associated with one or more products comprises the step of:

searching the database to locate the data associated with a product, wherein the datum of identification of the product matches a field within the database and that field also contains an address of the data associated with the product; and

retrieving the data associated with the product, with the address of the data, wherein the data being available for later use.

7. The method of claim 6 wherein the data associated with one or more individuals is in a database stored on a medium and the step of accessing the data associated with one or more individuals comprises the steps of:

electing one or more individuals, with a user's input from an input device, wherein the user's input includes at least one datum of identification of the individuals;

searching the database to locate the data associated with the individuals, wherein the datum of identification of the individuals matches a field within the database and that field also contains an address of the data associated with the individuals; and

retrieving the data associated with the individuals, with the address of the data, wherein the data being available for later use.

8. The method of claim 1 wherein the data associated with each of one or more individuals includes a data profile with the individual's characteristics and preferences, the data associated with each of one or more products includes a code that classifies the

product as appropriate for certain characteristics and preferences, and the step of determining a comparison result comprises the step of:

correlating the data profile of one or more individuals with the code of one or more products; and

ascertaining any correspondence between the characteristics and preferences of one or more individuals and the appropriate and inappropriate characteristics and preferences for one or more products.

9. The method of claim 8 wherein the step of determining a comparison result comprises the additional step of:

accepting one or more products for one or more individuals if one or more products is appropriate for one or more individuals based on the correspondence between the characteristics and preferences of one or more individuals and the appropriate characteristics and preferences for one or more products.

10. The method of claim 8 wherein the step of determining a comparison result comprises the additional step of:

rejecting one or more products for one or more individuals if one or more products is inappropriate for the individual based on the correspondence, or lack thereof, between the characteristics and preferences of one or more individuals and the appropriate characteristics and preferences for one or more products.

11. The method of claim 8 wherein the step of determining a comparison result comprises the additional step of:

accepting one or more individuals for one or more products if one or more individuals is appropriate for one or more products based on the correspondence between the characteristics and preferences of one or more individuals and the appropriate characteristics and preferences for one or more products.

12. The method of claim 8 wherein the step of determining a comparison result comprises the additional step of:

rejecting one or more individuals for one or more products if one or more individuals is inappropriate for one or more products based on the correspondence, or lack thereof, between the characteristics and preferences of one or more individuals and the appropriate characteristics and preferences for one or more products.

13. The method of claim 1 wherein the data associated with each of one or more individuals includes a data profile of the individuals's characteristics and preferences, the data associated with each of one or more products includes the product's characteristics and attributes, and the step of determining a comparison result comprises the step of:

processing the data profile of one or more individuals and the characteristics and attributes of one or more products' through a fuzzy-logic system, wherein the fuzzy logic is expert determined and includes a weighing or ranking system wherein each data comparison may be weighed or ranked.

14. The method of claim 13 wherein the step of determining a comparison result further comprises the step of:

accepting one or more products for one or more individuals if one or more products is appropriate for one or more individuals based on the fuzzy logic system.

15. The method of claim 13 wherein the step of determining a comparison result further comprises the step of:

rejecting one or more products for one or more individuals if one or more products is inappropriate for one or more individuals based on the fuzzy logic system.

16. The method of claim 13 wherein the step of determining a comparison result further comprises the step of:

accepting one or more individuals for one or more products if one or more individuals is appropriate for one or more products based on the fuzzy logic of the expert system.

17. The method of claim 13 wherein the step of determining a comparison result further comprises the step of:

rejecting one or more individuals for one or more products if one or more individuals is inappropriate for one or more products based on the fuzzy logic.

18. The method of claim 1 wherein the data associated with each of one or more individuals includes a data profile of the individuals's characteristics and preferences, the data associated with each of one or more products includes the product's characteristics and attributes, and the step of determining a comparison result comprises the step of:

evaluating, by an expert, the acceptability of one or more products or one or more individuals based on the expert's subjective evaluation of the data profile of one or more individuals and the characteristics and attributes of one or more products.

19. The method of claim 18 wherein the step of determining a comparison result further comprises the step of:

accepting one or more products for one or more individuals if one or more products is acceptable as evaluated by the expert.

20. The method of claim 18 wherein the step of determining a comparison result further comprises the step of:

rejecting one or more individuals for one or more products if one or more individuals is not acceptable as evaluated by the expert.

21. The method of claim 1, 2, or 3 wherein the step of disclosing the comparison results comprises the steps of:

listing the comparison results, wherein the comparison results are listed in an organized order; and

displaying the list comparison results so that the user will be able to view the list.

22. The method of claim 2, or 3 wherein the step of disclosing the comparison results comprises the steps of:

creating a digital image of a comparison result; and

displaying the digital images of the comparison result so that the user will be able to view the digital images of the comparison result.

23. The method of claim 22 wherein the step of disclosing the comparison results further comprises the step of:

transmitting the images of the comparison result over the Internet so that the user can remotely view the images of the comparison result.

24. The method of claim 22 wherein the data associated with an individual includes a data model of the individual that can be used to create a physical likeness of the individual and the step of disclosing the comparison results further comprises the steps of:

creating a digital physical likeness of one individual, from the data model of the individual, on the same scale as the digital image of the comparison result;

morphing the image of the comparison result onto the digital physical likeness of the individual so as to create a morphed image of the comparison result on the digital physical likeness of the individual; and

displaying the morphed image so that the user will be able to view the morphed image of the comparison result on the digital physical likeness of the individual.

25. The method of claim 22 wherein the data associated with an individual includes a digital image of the individual created from a picture of the individual and the step of disclosing the comparison results further comprising:

adjusting the digital image of one individual so that it is on the same scale as the image of the comparison result;

morphing the image of the comparison result onto the digital image of the individual so as to create a morphed image of the comparison result on the individual;

displaying the morphed image so that the user will be able to view the morphed image of the comparison result on the individual.

26. The method of claim 1, 2, or 3 wherein the data associated with an individual includes a data model of the individual that can be used to create a digital physical likeness of the individual and the step of disclosing the comparison results comprises the steps of:

creating a digital image of one or more products;

creating a digital physical likeness of a comparison result, from the data model of an individual, on the same scale as the digital image of one or more products;

morphing the image of one or more products onto the digital physical likeness of the comparison result so as to create a morphed image of one or more products on the digital physical likeness of the comparison result; and

displaying the morphed image so that the user will be able to view the morphed image of one or more products on the digital physical likeness of the comparison result.

27. The method of claim 1, 2, or 3 wherein the data associated with an individual includes a digital image of the individual created from a picture of the individual and the step of disclosing the comparison results comprises the steps of:

creating a digital image of one or more products;

adjusting the digital image of a comparison result so that it is one the same scale as the image of one or more products;

morphing the image of one or more products onto the digital image of the comparison result so as to create a morphed image of one or more products on the digital images of the comparison result; and

displaying the morphed image so that the user will be able to view the morphed image of one or more products on the digital image of the comparison result.

28. The method of claim 24, 25, 26, or 27 wherein the step of disclosing the results of the comparison comprises the additional step of:

transmitting the morphed images over the Internet so that the user will be able to remotely view the morphed images.

29. The method of claim 24, 25, 26, or 27 wherein the step of disclosing the results of the comparison comprises the additional step of:

printing the morphed images onto a printed medium so that the user will be able to view the printed medium and see how the products would look on the individual.

30. The method of claim 1, or 2 further comprising creating a data profile of an individual, wherein the data profile is a personal profile of the individual's characteristics and preferences, including the individual's physical traits, mental traits, and lifestyle choices.

31. The method of claim 1, 2 or 3 further comprising developing a data model of an individual, wherein the data model is a physical profile of the individual and it can be utilized to create a physical likeness of the individual.

32. The method of claim 30 wherein the step of creating a data profile of the individual comprises the steps:

posing multiple choice questions that the user answers through an input device, wherein the answers define the individual's characteristics and preferences;

processing the user's answers so as to create the data profile of the individual; and

storing the data profile in memory so that it may be easily accessed later.

33. The method of claim 31 wherein the step of developing a data model of the individual comprises the steps:

creating a physical profile of the individual utilizing the Identikit technique, wherein the user enters data about the individual's physical appearance;

processing the physical profile of the individual to create the data model which can be utilized to create a physical likeness of the individual; and

storing the data model in memory so that it may be easily accessed later.

34. The method of claim 31, or 33 wherein the step of developing a data model of the individual further comprises:

creating a digital physical likeness of the individual from the data model; and

displaying the digital physical likeness of the individual so that the user can access the digital physical likeness and can change the data about the individual's physical appearance so as to create a different digital physical likeness.

35. The method of claim 1, or 2 further comprising creating a digital image of an individual.

36. The method of claim 35 wherein the step of creating a digital image of the individual comprises:

receiving a picture of the individual from the user through an input device; and

creating a digital image of the individual from the picture of the individual.

37. The method of claim 1, 2 or 3 further comprising establishing a code for a product, wherein the code is based on an expert's fuzzy logic and it classifies the product as appropriate for certain characteristics and preferences.

38. The method of claim 37 wherein the step of establishing the code is accomplished by an expert who so classifies the product and the step of creating the code further comprising:

storing the product in memory so that it may be easily accessed later; and

placing the code for the product with the product in memory so that it may be easily accessed later.

39. The method of claim 1, 2 or 3 further comprising the step of intervening by an expert so that comparison results pass through the expert's evaluation and editing before the comparison results are disclosed.

40. The method of claim 39 wherein the comparison results accept one or more products and the step of intervening by an expert further comprises the steps of:

creating morphed images of one or more accepted products on the individual;

displaying the morphed images of one or more accepted products on the individual so that the expert can access the morphed image; and

removing one or more accepted products from the comparison results based on an evaluation by the expert of how well the product fits the individual.

41. The method of claim 1, 2 or 3 further comprising the step of grouping an individual in a defined category, wherein each category is determined by a combination of the individual's characteristics and preferences.

42. The method of claim 41 wherein the step of grouping the individual in a defined category further comprises:

posing multiple choice questions, wherein the user answers the questions and the answers define the individual's characteristics and preferences;

processing the user's answers so as to fit the individual within one of the defined categories; and

storing the category the individual fits in memory so that it may be easily accessed later.

43. The method of claim 1, 2 or 3 further comprising establishing a code for a product, wherein the code is based on an expert's fuzzy logic and it classifies the product as appropriate for certain categories of individuals.

44. The method of claim 43 wherein the step of establishing the code is accomplished by an expert who so classifies the product and the step of creating the code further comprises:

storing the product in memory so that it may be easily accessed later; and

placing the code for the product with the product in memory so that it may be easily accessed later.

45. The method of claim 1, 2 or 3 wherein the data associated with an individual includes a category which the individual fits into based on characteristics and preferences and the data associated with each of the one or more products includes a code that classifies the product as appropriate for certain categories of individuals, and the step of determining a comparison result further comprises the step of:

correlating the data profile of one or more individuals and the code of one or more products, wherein any correspondence between the category of one or more individuals and the appropriate categories for one or more products is ascertained.

46. The method of claim 45 wherein the step of determining a comparison result further comprises:

accepting one or more products for one or more individuals if one or more products is appropriate for one or more individuals based on the correspondence between the category one or more individuals and the appropriate categories for one or more products.

47. The method of claim 45 wherein the step of determining a comparison result further comprises:

rejecting one or more products for one or more individuals if one or more products is inappropriate for one or more individuals based on the correspondence, or lack thereof, between the category of one or more individuals and the appropriate categories for one or more products.

48. The method of claim 45 wherein the step of comparing the data associated with the individual with the data associated with one or more products further comprises:

accepting one or more individuals for one or more products if one or more individuals is appropriate for one or more products based on the correspondence between categories of one or more individuals and the appropriate categories for one or more products.

49. The method of claim 45 wherein the step of comparing the data associated with the individual with the data associated with the product further comprises:

rejecting one or more individuals for one or more products if one or more individuals is inappropriate for one or more products based on the correspondence, or lack thereof, between categories one

or more individuals and the appropriate categories for one or more products.

50. The method of claim 22 or 24 wherein the step of displaying further comprises the steps of:

displaying the image of the comparison result on a background.

51. The method of claim 1, 2 or 3 wherein the step of determining a comparison result comprises the step of:

personalization, wherein data other than physical characteristics is used.

52. The method of claim 51 wherein the data other than physical characteristics is preferences, psychological or emotional data.

53. The method of claim 51 wherein the step of determining a comparison result further comprises the steps of interacting by an expert.

54. The method of claim 1, 2 or 3 further comprising the step of entering one or more possessions of an individual into a database.

55. The method of claim 54 wherein the entered possessions are clothes, stocks or cars.

56. A method for matching products, services, or providers to individuals wherein the method utilizes one or more input devices and one or more output devices comprising the steps of:

identifying, with a user's input from an input device, one or more possessions, wherein the user's input includes at least one datum of identification for identifying the possessions;

accessing data associated with one or more products, wherein the data associated with each product uniquely describes that product;

determining a comparison result, wherein the comparison result is determined by the comparison of the data identifying one or more possessions and the accessed data associated with one or more products; and

disclosing the comparison results using an output device.

57. The method of claim 54 or 56 wherein the step of determining a comparison result comprises appraising the identified possessions.

58. An apparatus for a user to match input data to previously entered data stored in a database, comprising:

an input device for entering input data, wherein a user enters the input data using prompts and the input data either relates to an individual or to a product, service, or provider;

a database for storing previously entered data, capable of being compared to the input data, wherein the stored previously entered data is either coded product, service, or provider data or individual data profiles;

a processor, operably connected to the input device and database, for accessing the stored data in the database and comparing the input data to the stored data to create comparison results, wherein the comparison results are selected from stored data from

the database, whereby the comparison matches individuals and coded product, service, or provider; and

a display, wherein input data is displayed and comparison results from the database are displayed to the user, whereby the matched individuals and coded product/service/provider of the processor are provided to the user through the display.

59. The apparatus of claim 58 wherein the processor comprises an expert system, whereby the expert system expertly and automatically compares the input data to the stored data to assist in matching an individual and coded product/service/provider.

60. The apparatus of claim 59 wherein the expert system comprises a fuzzy logic system, wherein the fuzzy logic processes the input data and the stored data to intelligently assist in matching individuals and coded product/service/provider.

61. The apparatus of claim 59 wherein the expert system comprises a weighing system wherein the weighing system is used to weigh comparisons of the input data to the stored data to assist in reaching the comparison results.

62. The apparatus of claim 59 wherein the expert system comprises an expert Boolean-logic system which assists in matching individuals and coded product/service/provider.

63. The apparatus of claim 58 wherein the processor further comprises means for on-line expert evaluation, wherein the expert

evaluation assists in matching individuals and coded product/service/provider through a manual process.

64. The apparatus of claim 58 further comprising means for expert intervention, connected to the processor, wherein the expert manually performs the function of quality control on the comparison results from the database.

65. The apparatus of claim 64 wherein images are used by the expert, and the means for expert intervention comprises:

a modem to connect to the processor placing the expert in communication with the processor;

a screen to show images to the expert; and

a input device for expert input on the quality of the match between the individual or product, service, or provider represented by the input data and the individual, or product, service, or provider represented by the comparison results.

66. The apparatus of claim 58 further comprising means for coding previously entered data, connected to the database, wherein the previously entered data is coded and stored in the database for use by the processor.

67. The apparatus of claim 66 wherein the means for coding comprises means for expert coding, wherein an expert manually codes some or all of the product/service/provider data.

68. The apparatus of claim 58 wherein the stored data and the input data has data elements and the processor comprises means for

correlating data elements, wherein stored data and input data are examined for correspondence between data elements.

69. The apparatus of claim 65 wherein images are displayed by the display, further comprising visualization software, connected to the display, wherein an image is created for the comparison result and sent to the display.

70. The apparatus of claim 69 wherein images for individuals are used and the visualization software comprises a morphing routine, wherein an image for an individual image is morphed with an image of a comparison result prior to being sent to the display.

71. The apparatus of claim 58 wherein the input data entered on the input device is augmented with accumulated data prior to the comparing, further comprising:

a means for augmenting the entered input data with accumulated data relating to the individual, product, service, or provider of the entered input data.

72. A method for matching products or services to each of a plurality of users wherein the method utilizes one or more input devices for receiving data from a user and one or more output devices, the method comprising the steps of:

receiving information on an input device about the user using an input device;

analyzing this information to determine the user's identity;

accessing data associated with the user, the data associated with each user being unique to the user;

entering an inquiry relating to one or more products;

accessing data associated with products, the data being unique to each product and used to distinguish one product from another;

comparing the accessed data associated with the user to the accessed data associated with one or more products;

identifying one or more of the products as responsive to the inquiry and consistent with the data associated with the user; and

disclosing the one or more of the identified products to the user on an output device.

73. An apparatus for obtaining recommendations, comprising:

an individual system, wherein data associated with an individual is entered and stored so that the data can be accessed;

a products system for creating an encoded list of products or services;

a matching system, connected to the products and individual systems, wherein the products or services are matched to the individual; and

a display, wherein the matches from the matching system are displayed.

74. A system for obtaining personalized recommendations from experts over the Internet, comprising:

an individual system wherein data associated with a individual is entered and stored so that the data can be accessed later, comprising:

a means for creating a data profile of the individual, comprising:

a list of multiple choice question, wherein each questions elicits the characteristics and preferences of the individual;

answers to the questions, wherein each answer corresponds to a specific data code;

an input/output device for a user to view the questions and to input answers to the questions; and

a means to manipulate the data codes to create the data profile;

a means for creating a data model of the individual, comprising:

a list of multiple choice questions utilizing the Identikit technique to create a physical profile of the individual;

answers to the questions, wherein each answer corresponds to a specific data code;

an input/output device for the user to view the questions and to input answers to the questions; and

a means to manipulate the data codes to create a data model; and

a database for processing and storing the data, comprising:

a means for storing the individual's identity;

a means for storing the data profile, wherein the data profile is associated with the individual's identity; and

a means for storing the data model, wherein the data model is associated with the individual's identity;

a products system for creating an expert encoded list of products and services, comprising:

an input device for entering each product or service; and

a database for processing and storing each product and service, comprising:

a means for storing each product and service; and

a means for coding each product or service with the types of characteristics and preferences that the product or services is appropriate for, wherein an expert determines the code;

a matching system that connects the products and individual systems, matching the products and services to the individual, comprising:

a means for communication between the databases of each system;

a means for comparing the individual to the product so that the data profile of the individual is correlated to the code of the product wherein any correspondence between the characteristics and preferences of the individual and the code of the product is ascertained, comprising an expert system with weighing and rankings;

a means for outputting acceptance of the product for the individual, wherein the product will be accepted if the correlation of the data profile to the code of the product shows that the product is appropriate for the individual; and

a means for outputting rejection of the product for the individual, wherein the product will be rejected if the

correlation of the data profile to the code of the products shows that the products is inappropriate for the individual; and

a displaying system that displays to the user the outputs from the matching system, comprising;

a means for creating a digital image of the individual from the data model of the individual;

a means for creating a digital image of the accepted products;

a means for morphing the image of the accepted products onto the image of the individual so as to create an image of the products on the individual; and

means for displaying the morphed image of accepted products to the user.

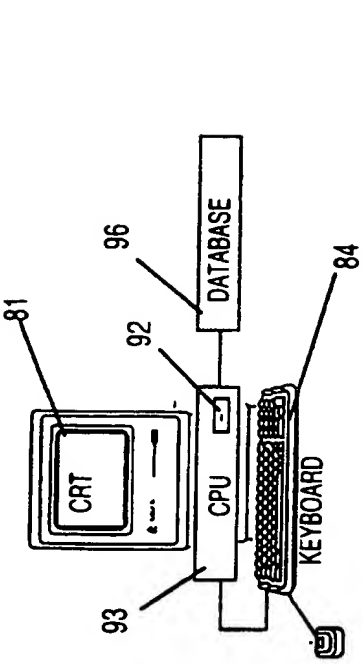
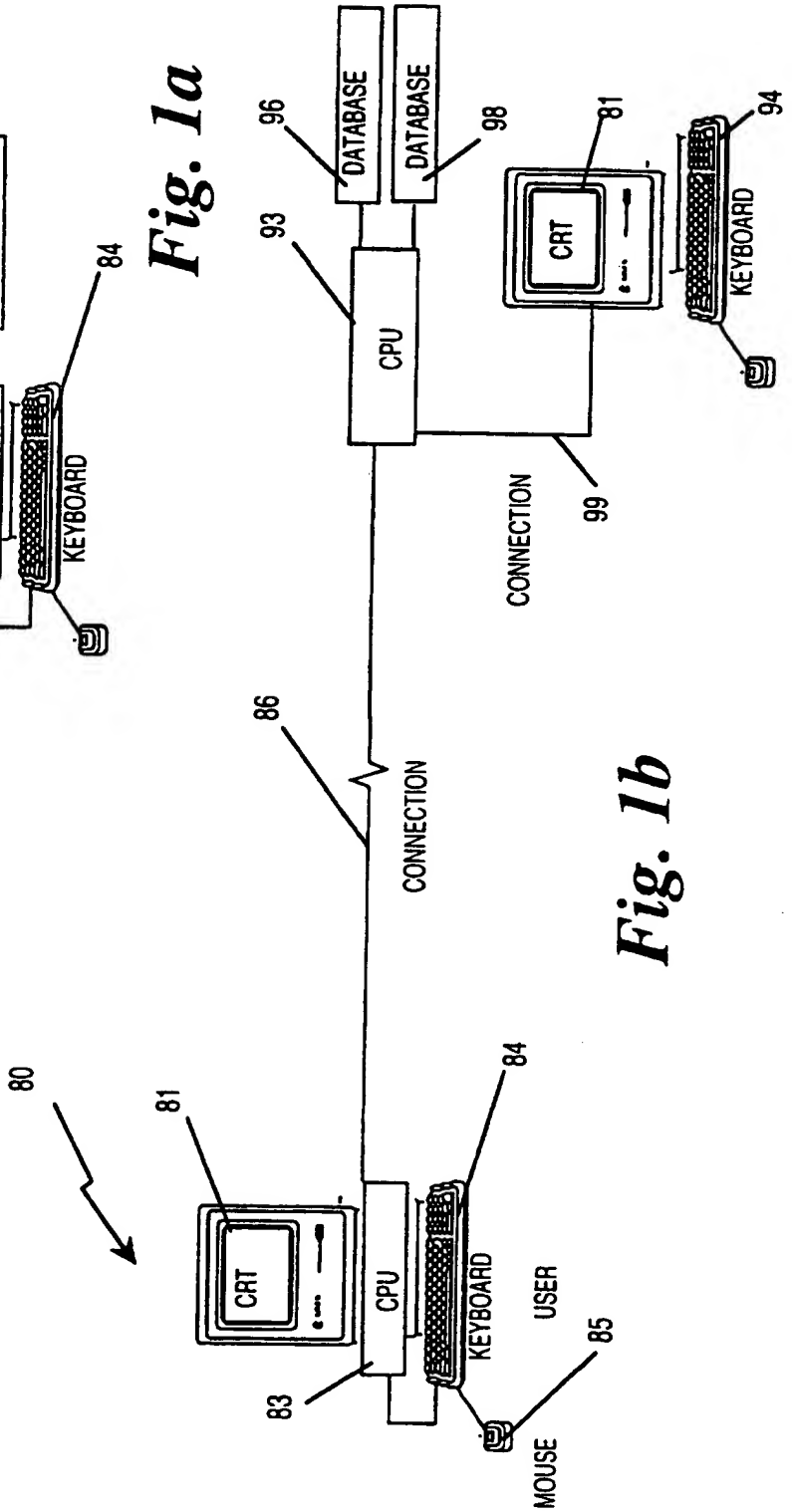

81
96
DATABASE
92
84
CRT
CPU
KEYBOARD
93

Fig. 1a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DATABASE
DATABASE
98
93
81
94
CRT
KEYBOARD
CPU
CONNECTION
99
86
CONNECTION
80
81
84
CRT
CPU
KEYBOARD
USER
83
85
MOUSE

Fig. 1b

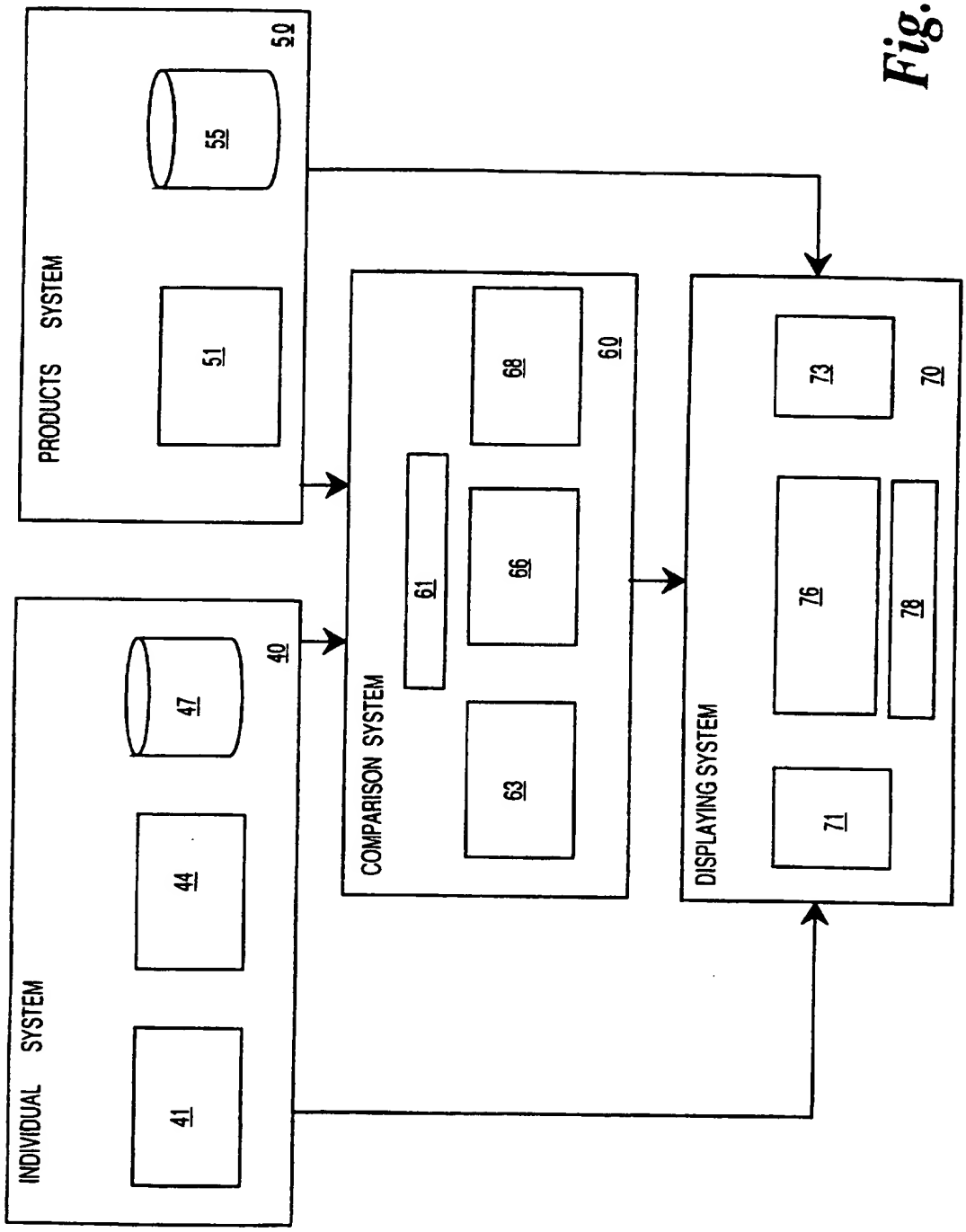

PRODUCTS SYSTEM
50
55
51
INDIVIDUAL SYSTEM
40
47
44
41
COMPARISON SYSTEM
60
68
61
66
63
DISPLAYING SYSTEM
70
73
76
78
71

Fig. 1c

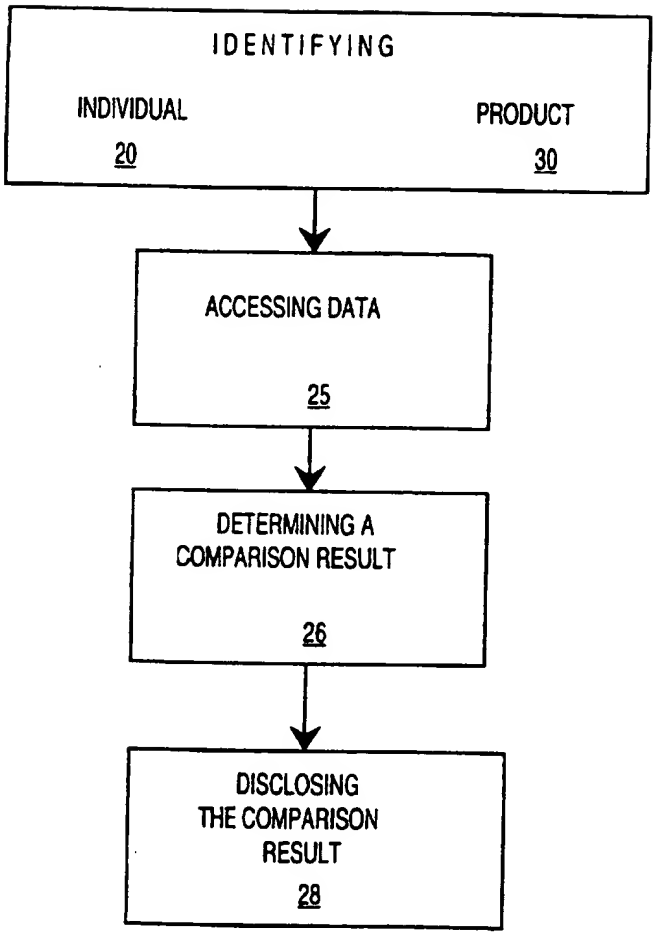

IDENTIFYING
INDIVIDUAL
20
PRODUCT
30
ACCESSING DATA
25
DETERMINING A
COMPARISON RESULT
26
DISCLOSING
THE COMPARISON
RESULT
28

Fig. 2

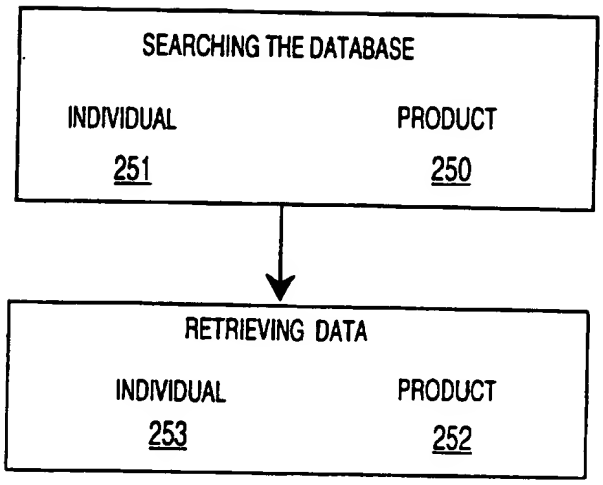

SEARCHING THE DATABASE
INDIVIDUAL
251
PRODUCT
250
RETRIEVING DATA
INDIVIDUAL
253
PRODUCT
252

Fig. 3a

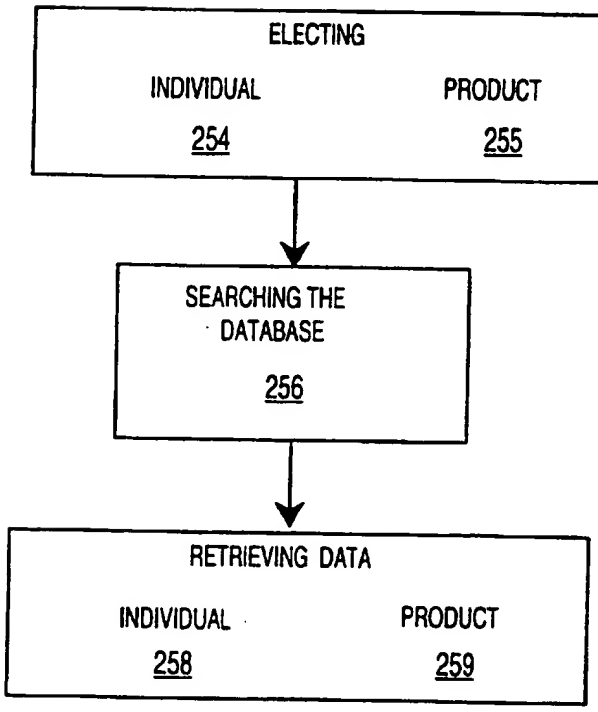

ELECTING
INDIVIDUAL
254
PRODUCT
255
SEARCHING THE DATABASE
256
RETRIEVING DATA
INDIVIDUAL
258
PRODUCT
259

Fig. 3b

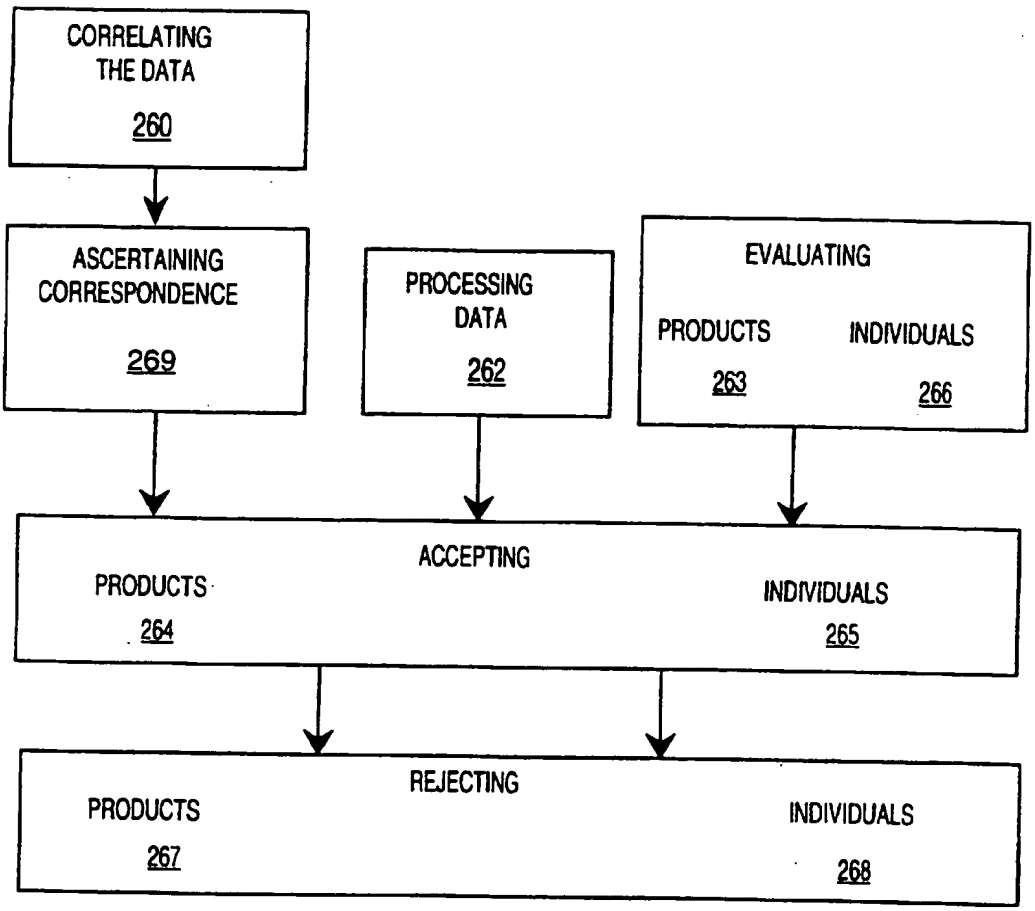

CORRELATING THE DATA
260
ASCERTAINING CORRESPONDENCE
269
PROCESSING DATA
262
EVALUATING
PRODUCTS
263
INDIVIDUALS
266
ACCEPTING
PRODUCTS
264
INDIVIDUALS
265
REJECTING
PRODUCTS
267
INDIVIDUALS
268

Fig. 4

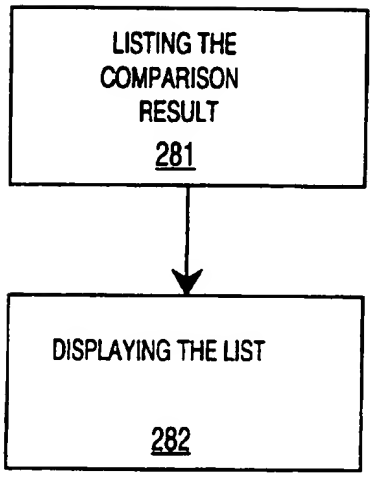

LISTING THE COMPARISON RESULT
281
DISPLAYING THE LIST
282

Fig. 5a

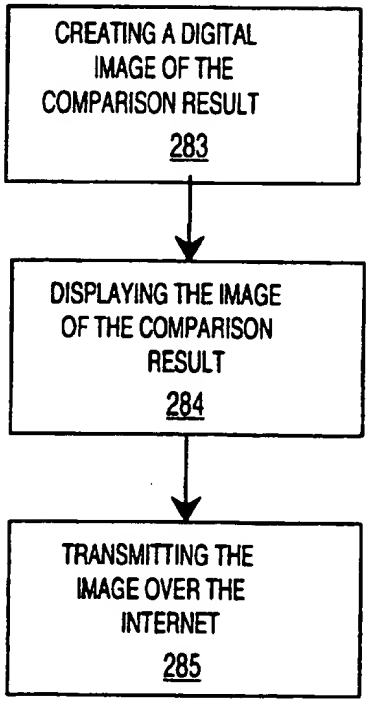

CREATING A DIGITAL IMAGE OF THE COMPARISON RESULT
283
DISPLAYING THE IMAGE OF THE COMPARISON RESULT
284
TRANSMITTING THE IMAGE OVER THE INTERNET
285

Fig. 5b

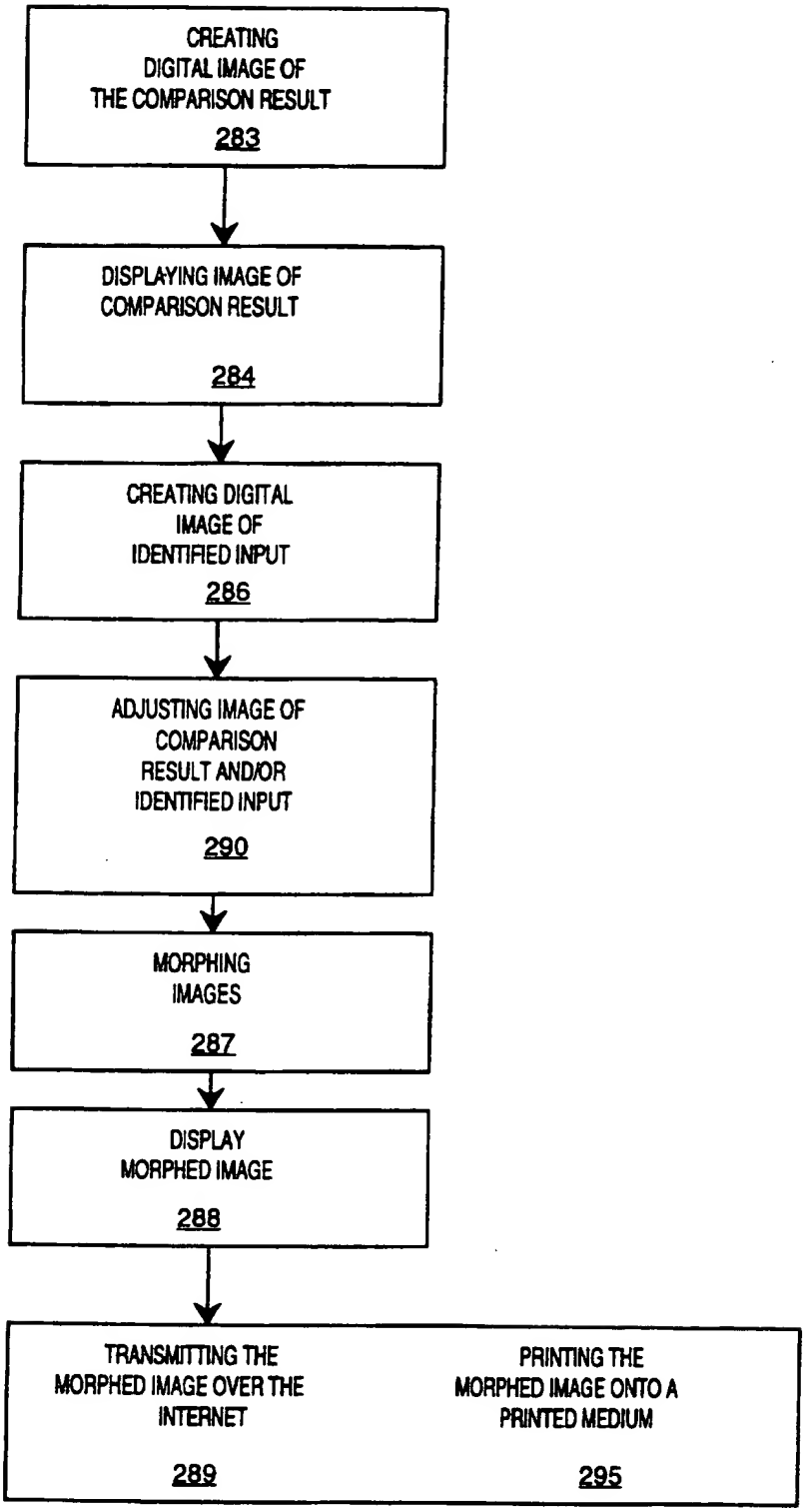

CREATING DIGITAL IMAGE OF THE COMPARISON RESULT
283
DISPLAYING IMAGE OF COMPARISON RESULT
284
CREATING DIGITAL IMAGE OF IDENTIFIED INPUT
286
ADJUSTING IMAGE OF COMPARISON RESULT AND/OR IDENTIFIED INPUT
290
MORPHING IMAGES
287
DISPLAY MORPHED IMAGE
288
TRANSMITTING THE MORPHED IMAGE OVER THE INTERNET
289
PRINTING THE MORPHED IMAGE ONTO A PRINTED MEDIUM
295

Fig. 5c

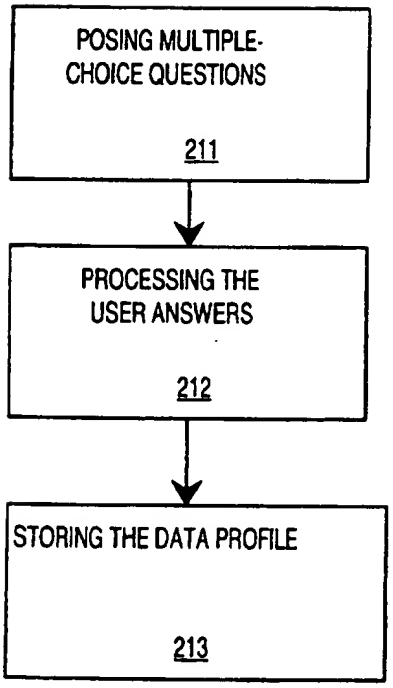

POSING MULTIPLE-CHOICE QUESTIONS
211
PROCESSING THE USER ANSWERS
212
STORING THE DATA PROFILE
213

Fig. 6

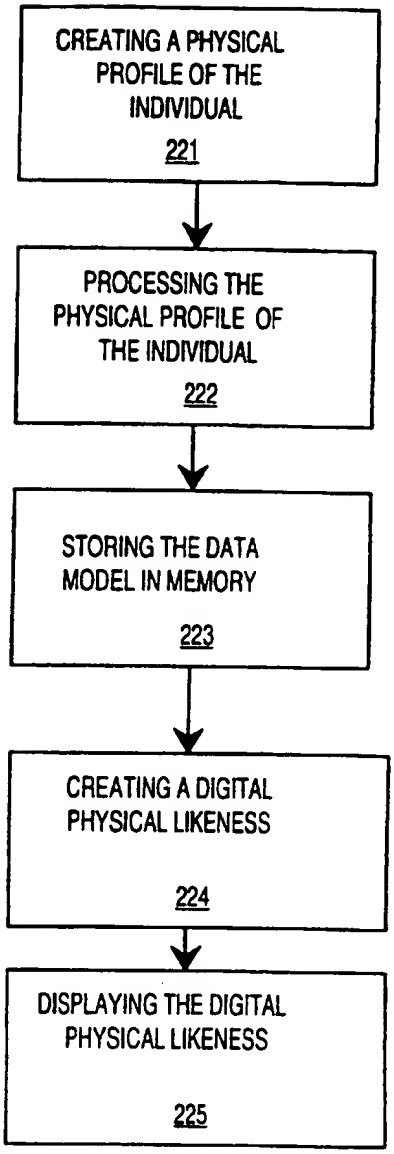

CREATING A PHYSICAL PROFILE OF THE INDIVIDUAL
221
PROCESSING THE PHYSICAL PROFILE OF THE INDIVIDUAL
222
STORING THE DATA MODEL IN MEMORY
223
CREATING A DIGITAL PHYSICAL LIKENESS
224
DISPLAYING THE DIGITAL PHYSICAL LIKENESS
225

Fig. 7

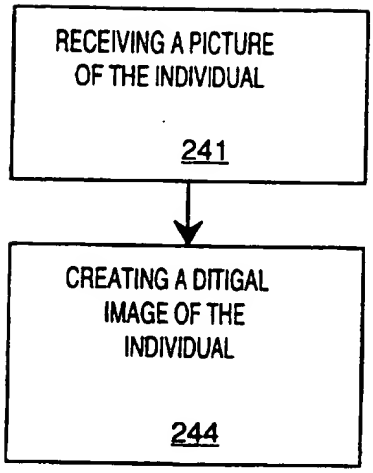

RECEIVING A PICTURE OF THE INDIVIDUAL
241
CREATING A DITIGAL IMAGE OF THE INDIVIDUAL
244

Fig. 8

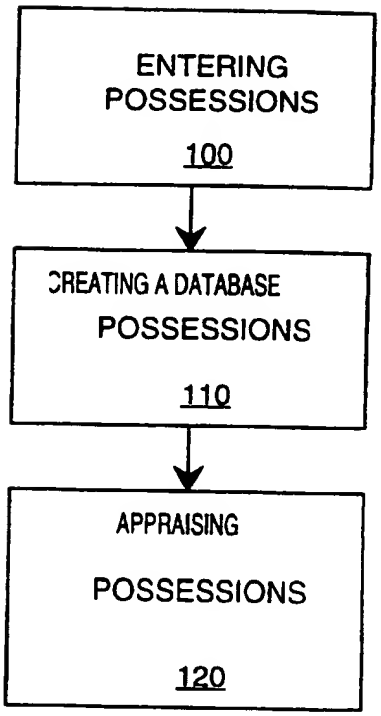

ENTERING POSSESSIONS
100
CREATING A DATABASE POSSESSIONS
110
APPRAISING POSSESSIONS
120

Fig. 9

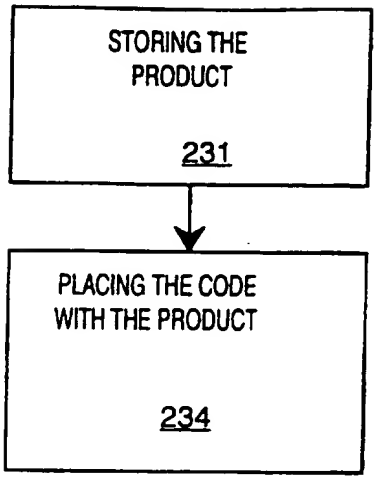


Fig. 10

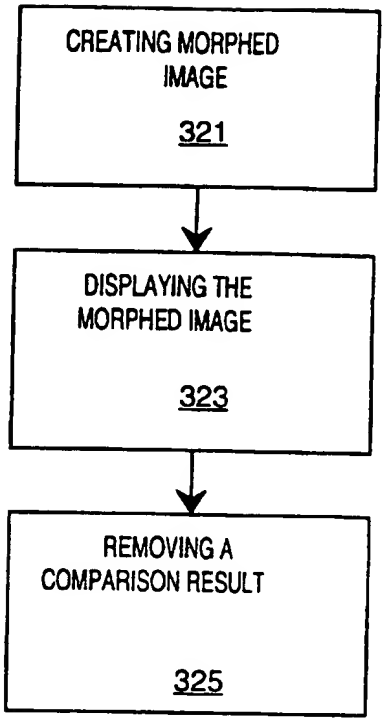


Fig. 11

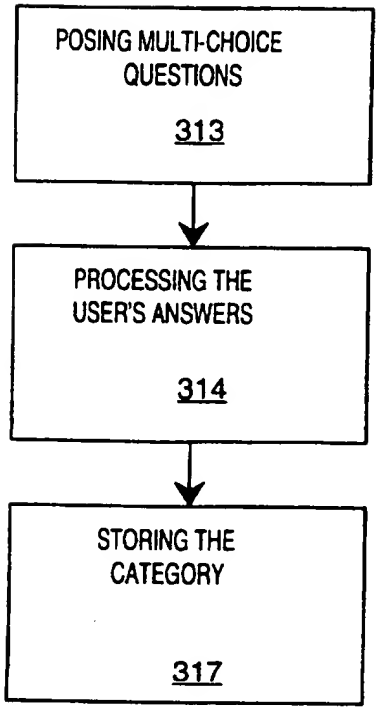
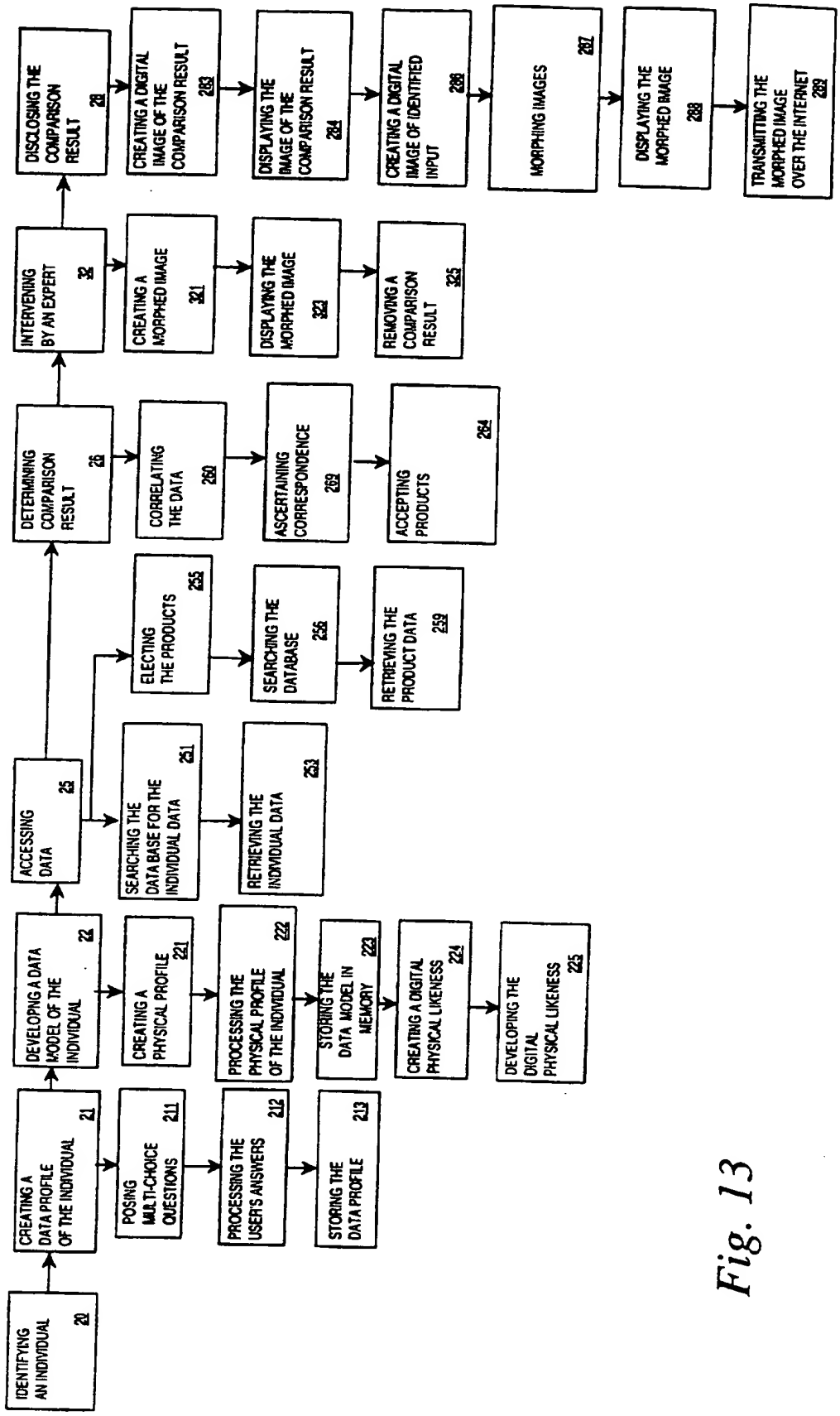


Fig. 12


IDENTIFYING AN INDIVIDUAL 20
CREATING A DATA PROFILE OF THE INDIVIDUAL 21
POSING MULTI-CHOICE QUESTIONS 211
PROCESSING THE USER'S ANSWERS 212
STORING THE DATA PROFILE 213
DEVELOPING A DATA MODEL OF THE INDIVIDUAL 22
CREATING A PHYSICAL PROFILE 221
PROCESSING THE PHYSICAL PROFILE OF THE INDIVIDUAL 222
STORING THE DATA MODEL IN MEMORY 223
CREATING A DIGITAL PHYSICAL LIKENESS 224
DEVELOPING THE DIGITAL PHYSICAL LIKENESS 225
ACCESSING DATA 25
SEARCHING THE DATA BASE FOR THE INDIVIDUAL DATA 251
RETRIEVING THE INDIVIDUAL DATA 253
ELECTING THE PRODUCTS 255
SEARCHING THE DATABASE 256
RETRIEVING THE PRODUCT DATA 259
DETERMINING COMPARISON RESULT 26
CORRELATING THE DATA 260
ASCERTAINING CORRESPONDENCE 262
ACCEPTING PRODUCTS 264
INTERVENING BY AN EXPERT 32
CREATING A MORPHED IMAGE 321
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REMOVING A COMPARISON RESULT 325
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CREATING A DIGITAL IMAGE OF THE COMPARISON RESULT 283
DISPLAYING THE IMAGE OF THE COMPARISON RESULT 284
CREATING A DIGITAL IMAGE OF IDENTIFIED INPUT 286
MORPHING IMAGES 287
DISPLAYING THE MORPHED IMAGE 288
TRANSMITTING THE MORPHED IMAGE OVER THE INTERNET 289

Fig. 13

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US97/12277

A. CLASSIFICATION OF SUBJECT MATTER
IPC(6) :G06F 17/60
US CL :395/214
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 395/201, 207, 210, 214, 226, 227

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
APS:
demographic?, profile?, match?, product, user, customer, suggest?

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4,484,733 A (LOOS et al.) 27 NOVEMBER 1984, see Abstract.	1-27, 30-33, 35-49, 51-56, 58-74
A	US 4,552,349 A (LOOS et al.) 12 NOVEMBER 1985, see Abstract.	1-27, 30-33, 35-49, 51-56, 58-74
A	US 5,099,422 A (FORESMAN et al.) 24 MARCH 1992, see entire document.	1-27, 30-33, 35-49, 51-56, 58-74
A	US 5,201,010 A (DEATON et al.) 06 APRIL 1993 see Abstract, cols. 21-24, 33-34, 59-71	1-27, 30-33, 35-49, 51-56, 58-74

[X] Further documents are listed in the continuation of Box C. [ ] See patent family annex.

*	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E"	earlier document published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search 23 OCTOBER 1997	Date of mailing of the international search report 23 DEC 1997
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer STEPHEN R. TKACS Telephone No. (703) 308-3800

Form PCT/ISA/210 (second sheet)(July 1992)*

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US97/12277

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,353,218 A (DE LAPA et al.) 04 OCTOBER 1994, see Abstract.	1-27, 30-33, 35-49, 51-56, 58-74
A	US 5,446,919 A (WILKINS) 29 AUGUST 1995, see Abstract.	1-27, 30-33, 35-49, 51-56, 58-74

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US97/12277

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☒ Claims Nos.: 28, 29, 34, 50, AND 57
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☐ No protest accompanied the payment of additional search fees.